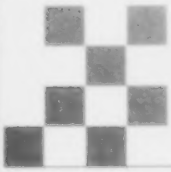
Project Green

Moving Forward on Climate Change

A Plan for Honouring our Kyoto Commitment

www.climatechange.gc.ca

2005



Government of Canada Gouvernement du Canada

Canada

This publication may be reproduced without permission provided that its use falls within the scope of fair dealings under the Copyright Act, and is solely for the purposes of study, research, criticism, review or newspaper summary. The source must be fully acknowledged. However, reproduction of this publication in whole or in part for purposes of resale or redistribution requires the prior written permission from the Minister of Public Works and Government Services Canada, Ottawa, Ontario K1A 0S5 or copyright.droitdauteur@communication.gc.ca.

Cat. no. En84-15/2005
ISBN 0-662-68808-2

© Her Majesty the Queen in Right of Canada, 2005

Project Green

Moving Forward on Climate Change

A Plan for Honouring our Kyoto Commitment

www.climatechange.gc.ca

Government of Canada
Gouvernement du Canada

Canada

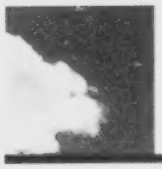


Table of **Contents**

Executive Summary iii

Introduction 1

Overview 1

Climate Change is a Challenge but also an Opportunity 2

Canada is Committed to Multilateral Action 7

Climate Change Actions So Far 7

2005 Climate Change Plan 9

Elements of the Plan 14

Competitive and Sustainable Industries for the 21st Century 14

Harnessing Market Forces 20

A Partnership among Canada's Governments 25

Engaged Citizens 27

Sustainable Agriculture and Forest Sectors 30

Sustainable Cities and Communities 31

Conclusion: Kyoto and Beyond 33

Annex 1: Summary of Potential Emission Reductions and Associated Federal Costs 38

Annex 2: Government Commitments to the Large Final Emitters 40

Annex 3: Canada's Kyoto Commitment 42

Annex 4: Climate Change Science 43

Annex 5: A History of Our Climate Change Actions 44

Annex 6: Engaging Canadians 46

Executive Summary

Our climate change Plan will contribute significantly to cleaner air for Canada's cities, enhance biodiversity, help to preserve wild spaces and generally improve the quality of life for Canadians.

Climate change is a global challenge, and the Kyoto Protocol is the only global mechanism with targets to reduce greenhouse gas (GHG) emissions. Canada is a strong supporter of the Kyoto Protocol.

Canada's Kyoto target is challenging. However, Canada has many advantages that will help us rise to that challenge. The Government of Canada is committed to the transformative, long-term change required to make reductions in GHG emissions while ensuring continued economic growth. In achieving that transformation, we believe we will meet our Kyoto target while maintaining a productive and growing economy.

As well as transforming our economy, boosting our economic competitiveness and enabling Canada to achieve its short-term and longer term climate change goals, our 2005 Climate Change Plan will contribute significantly to cleaner air for Canada's cities, enhance biodiversity, help to preserve wild spaces and generally improve the quality of life for Canadians.

Encouraging innovation and the development of environmental technology is a key aspect of the Government's approach to climate change in the longer term. New technologies can provide Canadians with the ability to reduce GHG and other harmful emissions while enjoying the benefits of a competitive economy.

The 2005 Climate Change Plan is built on six key elements:

- **Competitive and Sustainable Industries for the 21st Century**: The Plan is designed to spur innovative and technological advancement, situating Canada's industries for a competitive advantage in the 21st century. It outlines a large final emitter system that will enable Canada's largest emitters to contribute to national climate change objectives in a manner that facilitates growth and competitiveness. The Government and the automobile industry have reached an agreement that will see technological advancement realize substantial emission reductions from the sector. Along with fighting climate change, increasing Canada's capacity of wind and other emerging renewable energy will help to diversify our energy mix and position our industries as leaders in growing international markets.
- **Harnessing Market Forces**: The Plan uses market mechanisms to tap GHG reduction potential across the economy. The innovative Climate Fund will invest in emissions reductions from citizens and businesses throughout Canada, spurring innovation at a national level. The Climate Fund will also invest in international emissions reductions in a manner that advances Canada's broader sustainability interest. Participating in the international market brings domestic economic and environmental benefits, as well as a means of advancing our development objectives and gaining experience in a trading market that is expected to be of growing importance over time.
- **A Partnership among Canada's Governments**: Cooperative action is critical to our success in fighting climate change. The Partnership Fund will maximize potential partnerships with provinces and territories. Under the Partnership Fund, governments will identify mutual priorities and share in the undertaking of major investments in technologies and infrastructure development. The federal government will

play a leadership role, by deepening its commitments to green its own operations.

- **Engaged Citizens**: Citizens are truly Canada's best asset in its fight against climate change. A sustainable environment is important to Canadians, and, through the One-Tonne Challenge and other federal programs, this Plan will provide citizens with the tools they need to take action.
- **Sustainable Agricultural and Forest Sectors**: One natural advantage Canada has in rising to the challenge of climate change is our vast forests and agricultural lands. Properly managed, these can be valuable in sequestering GHG emissions from the atmosphere.
- **Sustainable Cities and Communities**: This Plan recognizes the synergies between the parallel efforts of fighting climate change and greening our cities and communities. The Government of Canada's *New Deal for Cities and Communities*, which includes significant investment in sustainable infrastructure, will help advance our climate change goals.

It is estimated that the approaches outlined in the Plan, with an associated federal investment in the range of $10 billion through 2012, could reduce GHG emissions by about 270 megatonnes annually in the 2008–2012 period.

Budget 2005 laid the foundation for our Plan to fight climate change, and took an important step in providing resources to the Plan. Funding provided included:

- **Clean Fund** (renamed the Climate Fund in this Plan): a minimum funding of $1 billion;
- **Partnership Fund**: $250 million, with the possibility that funding could grow to $2–$3 billion over the next decade;
- **Renewable Energy**: $200 million for the Wind Power Production Incentive, $100 million for the Renewable Power Production Incentive and $300 million for tax incentives for efficient and renewable energy generation; and
- **Programs**: $2 billion for existing climate change programs.

The Budget noted that more action will be required in the future and that the Government will introduce additional measures as part of this climate planning process, as resources permit and as we learn from our domestic investments and international experience.

Our approach to climate change action builds on previous approaches and incorporates transparency, ongoing evaluation and learning. We will make modifications and course corrections to our Plan over time, including an annual review and reallocation of climate change spending to ensure that investments are effective and cost-efficient and result in real and verifiable GHG emission reductions. We will report annually to Canadians on our progress, beginning in 2008.

The Government of Canada is committed to engaging provinces and territories, municipalities, Aboriginal peoples, industry, non-governmental organizations and all Canadians in the implementation of the Plan so as to maximize the conditions of success.

Introduction

"The Government reiterates that it will respect its commitment to the Kyoto Accord on climate change in a way that produces long-term and enduring results while maintaining a strong and growing economy. It will do so by refining and implementing an equitable national plan, in partnership with provincial and territorial governments and other stakeholders."

Speech from the Throne — October 2004

Overview

The Government of Canada is committed to the transformative, long-term change required to make deep reductions in greenhouse gas (GHG) emissions while ensuring continued economic growth. This change is essential for the protection of our natural environment, in particular our Arctic region, a competitive and sustainable economy and the quality of life of Canadians.

Climate change is a global challenge — the affect on the world's climate is the same regardless of where GHG emissions are released. For that reason, the Government of Canada is committed to global multilateral approaches to addressing this challenge. The Kyoto Protocol is the only global mechanism with targets to reduce GHG emissions, although its membership is not as broad as Canada would wish. However, the Protocol has broad international support and contains innovative flexibility mechanisms that Canada put considerable effort into designing. For these reasons, Canada is a strong supporter of the Kyoto Protocol.

A key feature of the Protocol is its emission reduction targets for individual countries. Targets were set to bring discipline and the necessary pressure for collective international action; Canada's Kyoto target is particularly challenging.

Even though Canada's target is ambitious, it makes sense for Canada to take action on climate change.

Canada has many advantages that will help us rise to that challenge. Our natural resource and other industrial sectors are world leading and technologically advanced. We have vast forests and agricultural lands that, properly managed, can be valuable in sequestering GHGs. All orders of government are engaged and demonstrating leadership. As well, Canadians are concerned and want to make a difference.

Even though Canada's target is ambitious, it makes sense for Canada to take action on climate change. This means aiming to reach our short-term goals while putting in place the transformational measures necessary to ensure that our longer term climate change objectives are realized. The Government of Canada is committed to the transformation of our economy. In taking action to achieve this, we believe we will meet our Kyoto target.

Our 2005 Climate Change Plan has a number of objectives:

- to mobilize Canadians in a national effort to enable Canada to respect its Kyoto commitment in the short-term and address the longer term challenge of climate change;
- to facilitate the transformation and sustainability of our economy while maintaining our competitiveness through improved resource productivity; and
- to contribute significantly to cleaner air for Canada's cities and communities, enhanced biodiversity and generally improve quality of life for Canadians.

Our Kyoto commitment will be realized taking into account that the precise challenge it sets for Canada is a function of many variables, such as economic growth and energy prices, that can be estimated but cannot be known with certainty in advance. For that reason, our approach to climate change action is evergreen — it builds on previous approaches and incorporates ongoing evaluation and learning. We will engage provinces and territories, Aboriginal peoples, municipalities, industry, non-governmental organizations, and all Canadians in its implementation so as to maximize the conditions of success, to reflect public input, lessons learned and results achieved. We will make modifications and course corrections as part of this climate change approach over time.

This Plan in itself will not solve climate change, but it will engage Canadians and their governments to make decisions and choices in order to reduce GHG emissions, respect Canada's Kyoto commitment and fight climate change over the longer term. This Plan provides overall direction along with important tools and incentives; it will be up to Canadians whether we reach our destination.

Our climate change Plan is a key component of the Government's broader environmental vision — Project Green. It will address the full spectrum of environmental issues, such as biodiversity, water, contaminated sites and clean air. It will create a set of policies and programs aimed at supporting a sustainable environment and a more competitive economy. The groundwork for Project Green was established by the October 2004 Speech from the Throne and Budget 2005.

The Kyoto Protocol became international law on February 16, 2005.

Climate Change is a Challenge but also an Opportunity

Climate change is the greatest sustainability challenge of our time

The global community has recognized the challenge of climate change and is taking action to fight it. The Kyoto Protocol became international law on February 16, 2005, reflecting a growing consensus that managing climate change is key to the health of our planet, the health of people around the world and future global economic stability and prosperity.

If uncontrolled growth of GHG emissions continues, it will contribute to an expected global temperature increase of roughly 1.5 to 6 degrees Celsius over the rest of this century. This would significantly change the way our planet works. In the Arctic, temperature increases of up to 12 degrees Celcius are possible.

Extreme weather threatens Canadian ecosystems, security and health, and imposes severe costs on key sectors of our economy. Recent events such as the BC forest fires (2003), the Prairie drought (2004), and the Eastern Ontario/Quebec ice storm (1998) have demonstrated how vulnerable communities are to the wide-ranging social and economic impacts of weather extremes and variability. The cost of weather-related disasters in Canada increased significantly during the 1990s. A number of sectors in the Canadian economy — including forestry, agriculture and fisheries — can be easily devastated by climate change-induced weather disasters. Canada's north is particularly vulnerable to climate change, and impacts there are already being observed.

The Inter-governmental Panel on Climate Change (IPCC) was established by the United Nations in 1988 to undertake periodic comprehensive assessments of

the available scientific and socio-economic information on climate change and its impacts and on options for mitigating and adapting to the risks posed by climate change. Evolution in our understanding of the science of climate change can be viewed through the key scientific conclusions from the three IPCC assessments completed to date (see Annex 4):

- In the First Assessment, completed in 1990, experts concluded that emissions from human activities are substantially increasing the atmospheric concentrations of GHGs and that this will enhance the greenhouse effect and result in an additional warming of the Earth's surface.
- The Second Assessment, completed in 1995, put forward new findings, including: GHGs have continued to increase; climate has changed over the past century and is expected to continue to change in the future; and the balance of evidence suggests a discernible human influence on global climate.
- The Third Assessment, completed in 2001, included findings that: there is new and stronger evidence that most of the warming over the last 50 years is attributable to human activities; emissions of GHGs due to human activities continue to alter the atmosphere in ways that are expected to continue to change the climate; and atmospheric climate change will persist for many centuries.

The emission reductions targets agreed to by signatories of the Kyoto Protocol for the 2008–2012 period amount to about a 5.2 percent emission reduction from 1990 levels globally. While this is a good first step, much more needs to be done. Scientists estimate that total global emissions would need to be reduced by 50–60 percent from 1990 levels by 2050 in order to stabilize atmospheric concentrations of GHGs at twice pre-industrialized levels.

The Exeter Conference, held in the United Kingdom on February 1–3, 2005, brought together leading scientists from both developed and developing countries to help inform the climate change discussions at the G8. Scientists discussed the need to think more innovatively about how targets for climate change action could be set in the future, including with respect to adaptation.

Fighting climate change helps build a competitive and sustainable Canadian economy

The clear connection between environmental considerations and economic competitiveness is leading a transformation of the way the global economy works. Countries are integrating both environmental and economic performance in order to position

What are greenhouse gases?

Naturally occurring GHGs include water vapour, carbon dioxide, methane, nitrous oxide and ozone. Certain human activities produce more of these gases and other activities can create GHGs that do not naturally occur.

Carbon dioxide (CO_2): An increasing amount of carbon dioxide is being released by the burning of fossil fuels (coal, oil, natural gas) for industrial purposes, transportation and the heating/cooling of buildings, as well as by deforestation.

Methane (CH_4): An increasing amount of methane is being released from landfills, wastewater treatment and certain agricultural practices, as well as from grazing livestock.

Nitrous oxide (N_2O): An increasing amount of nitrous oxide is being emitted into the atmosphere through the use of chemical fertilizers and the burning of fossil fuels.

The three GHGs that are not naturally occurring, but which are included in the Kyoto Protocol are: hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6). These gases are generated in a variety of industrial processes.

What is the greenhouse effect?

The greenhouse effect describes the role of the atmosphere in insulating the planet from heat loss. Small concentrations of GHGs within the atmosphere allow most of the sunlight to pass through the atmosphere to heat the planet. However, these same gases also absorb much of the outgoing heat energy radiated by the Earth itself, and return much of this energy back towards the surface. This keeps the Earth's surface much warmer than if the GHGs were absent. This natural process is referred to as the "greenhouse effect" because, in some respects, it resembles the role of glass in a greenhouse. Without these naturally occurring GHGs, including water vapour, carbon dioxide, methane and nitrous oxide, the average temperature of the Earth would drop from 14 degrees Celsius to minus 19 degrees Celsius and would be unsustainable for life on Earth.

Since the Industrial Revolution, developed countries have produced increasing quantities of GHGs, due to the burning of fossil fuels such as coal, oil and natural gas to drive our vehicles, power our industries and heat and cool our homes. Other human activities, such as the clearing of land for agriculture and urban development and landfilling and other waste disposal methods, are also adding to the concentrations of GHGs in our atmosphere.

As a result, concentrations of carbon dioxide in the atmosphere have increased by over 30 per cent since the Industrial Revolution. Concentrations of methane and nitrous oxide, which are also related to human activities, have increased by about 150 percent and 17 percent respectively during the same period. Increased concentrations of GHGs in our atmosphere are enhancing the natural greenhouse effect, causing the Earth to become warmer.

themselves to improve, or even to maintain, the quality of life of their people and to spur the innovation and creativity needed to drive a competitive and sustainable economy.

As the world moves to address the challenge of climate change, those economies and companies that build environmental considerations into their decisions will ultimately have a competitive advantage. Those that choose to ignore the challenge, and the opportunities it brings with it, risk being left behind. As a result, they will face a bigger, more difficult adjustment in the not too distant future. Canada can and will realize the benefits of being a first mover.

Canada's climate change-related investments to date have delivered energy efficiency, energy conservation and cost savings across the economy. It is estimated that Canadian industry is saving $3 billion per year on fuel costs due to advanced energy management practices. Economy-wide savings in energy costs are about $12 billion per year, relative to what costs would have been had energy efficiency improvements not taken place. Further action on climate change will see these numbers grow.

Timely investments in innovative technologies for energy use and production not only have the potential to reduce our GHG emissions but also can open up economic opportunities:

- Renewable energy, including hydro power and wind, has an important role to play in this transformation. In the case of hydro, we can build on the international leadership of our provincial utilities such as Hydro-Quebec, Manitoba Hydro and BC Hydro while emerging renewables such as wind provide the opportunity to be in the forefront of new economic sectors.
- Ballard Power Systems of British Columbia is a world leader in fuel cell technology and collaborates with vehicle manufacturers such as DaimlerChrysler and Ford. Canadian companies are well positioned to garner a significant share of the global demand for fuel cells, which is projected to be nearly $46 billion by 2011.
- Pumping captured carbon dioxide into oil reservoirs not only represents a significant opportunity to store GHGs underground instead

of releasing them into the atmosphere but also increases the amount of oil production from mature Canadian oil reserves. It is estimated that enhanced oil recovery could increase production from mature Canadian oil reservoirs by between 8 and 25 percent of the original oil in place, increasing potential recovery by between 3 and 9 billion barrels of oil.

- Nearly 70 percent of Canada's coal-fired plants are due to retire by 2020. Investments in clean coal technology today will enable us to replace aging thermal plants with technology that is significantly cleaner, is more efficient and has a lifetime of 40 years.

Investors are increasingly putting a value on environmental responsibility. The Dow Jones Sustainability Index grants membership to top sustainability-driven companies that lead their industries by setting standards for best practice and demonstrating superior environmental, social and economic performance. Canadian companies represented on the Index include Alcan, Ballard, CIBC, Cognos, Dofasco, Domtar, Nexen, RBC, Shell Canada, Suncor, TELUS, TransAlta Utilities and TransCanada Corp.

Climate change investments can also support regional development. Increasing the supply of ethanol and bio-diesel will bring significant benefits for grain-growing regions. For example, Saskatchewan estimates that a 400 million litre per year industry will increase provincial demand for wheat feedstock by just over 1 million tonnes annually, create economic opportunities in rural areas of the province, including spin-off employment in the livestock and other industries, and significantly increase construction activity. Reducing agricultural GHG emissions through advanced farming practices and increasing carbon sequestration in soils through no-till and low-till practices, not only fight climate change but can provide an important source of supplementary income and niche market opportunities for Canada's farmers. Not only can enhanced forest management support conservation of natural spaces and protection of biodiversity, it can offer sustainable development options for many Aboriginal communities.

The investment required to reduce GHG emissions will also result in other benefits for Canada. Events like the Ontario blackout of summer 2003 underscore how interdependent we have become, and how serious the consequences of cascading power outages can be for the economy and national security. Through enhanced incentives for co-generation and other forms of distributed generation, the Government is moving to support the diversification of our power system. Options for strengthening our approach to achieving GHG emission reduction through federal-provincial-territorial partnerships could include projects such as strengthening the national electricity grid, helping to harness Canada's hydroelectricity and other renewable energy potential, supporting Ontario in its commitment to phase out its coal-fired power plants and investing in clean coal.

Climate change action brings cleaner air and enhances the quality of life for Canadians

Because fuel combustion is a primary source of smog-related air pollutants as well as GHG emissions, the measures we introduce for climate change reasons, when designed in a way that incorporates human health and community sustainability considerations, can also contribute significantly to cleaner air in Canada's cities and communities. The result is improved health and quality of life for Canadians as well as cost savings for the health care system. We expect that significant clean air co-benefits for Canadians would result from achieving our Kyoto goals. The activities proposed in this Plan could contribute to reducing the current burden of disease associated with air pollution, which is estimated to contribute to thousands of deaths in Canada each year.

Municipalities that act to reduce emissions through improved public transit deliver multiple benefits through, for example, cleaner air, reduced traffic congestion and more livable and attractive cities. International firms choosing to locate in Canada routinely cite quality of life for their employees as a key consideration in selecting a location for investment.

Climate change investments will result in other environmental benefits such as decreasing the mercury emissions that come from polluting coal power plants located in Canada and other countries. Measures to increase the carbon-storing capacity of

International firms choosing to locate in Canada routinely cite quality of life for their employees as a key consideration in selecting a location for investment.

our agricultural land and forests will create an incentive to protect our wild spaces, such as wetlands, and our biodiversity. Many of the measures that fight climate change also help green our cities and communities through investment in sustainable infrastructure. The latter, when designed in a way that integrates climate change, human health and community sustainability considerations, can support health objectives in a number of areas, including children's health, mental health, active living and seniors' health.

Investments in science and adaptation are also necessary

Some impacts of climate change are being felt already, and more will come to pass in the future. Investments to assist communities to adapt to climate change impacts are required, especially to safeguard those populations facing higher risk — children, seniors and northern Canadians. For example, the recently released Arctic Climate Impact Assessment report has documented the significant challenges faced by Canadians in the Arctic from the already evident impacts of climate change. They are already finding it difficult to maintain existing cultures, livelihoods and health and well-being.

Planning in Canada for the next International Polar Year 2007–2009 represents a focus of internationally coordinated, interdisciplinary, scientific research and observations aimed at the Earth's polar regions. The proposed complementary work to the Arctic Climate Impact Assessment report will enable nations to make major advances in knowledge and understanding of these high latitudes; provide a legacy of new and enhanced observational systems, facilities and infrastructure for ongoing northern scientific and social studies; and use the new knowledge to implement actions that deal with the impacts of the changing environment in these communities.

In order to protect quality of life in Canada, sustained, effective efforts will be required to reduce GHG emissions and promote effective social adaptation strategies that minimize expected adverse impacts and exploit opportunities for sustainable global health. While there are short-term costs to reducing GHG emissions, not taking action would also mean incurring costs — the costs of a changing climate and the need to make evermore dramatic adjustments the longer adaptation is delayed.

In addition, we need to invest further in our scientific understanding of climate change. We need to enhance our climate observation network, strengthen our modeling capacity, and build our understanding of the role of oceans in moderating climate.

Canada is Committed to Multilateral Action

Canada is acting in the context of broad multilateral consensus and effort

There is broad international consensus on the challenge presented by climate change and the types of actions needed to address it. Climate change is a global issue requiring global action — countries need to work in a multilateral fashion. Canada is a strong supporter of the Kyoto Protocol, precisely because it is the only internationally agreed mechanism for reducing GHG emissions and it is clearly in Canada's national interest to be involved. The Protocol is phase one of growing international action. Canada will respect its Kyoto commitment in this first phase, and above all Canada will act to address the longer term challenge.

Different countries have different starting points in their fight against climate change and different strengths to lever in their efforts. The Kyoto Protocol provides for international trading and other flexibility mechanisms to address these differences in capacity and allow countries to benefit from each other's strengths. The Netherlands, other European Union countries and Japan are planning significant investments in the international carbon market to help achieve their Kyoto targets. Canada's participation in the international market will deliver domestic benefits, both economically by showcasing Canadian technologies abroad and environmentally by reducing the mercury emissions that reach our borders from other countries. Canada cannot protect itself from climate change without international action.

Clearly all parties to the Kyoto Protocol share the need to develop new knowledge, cost-benefit analyses and adaptation strategies. The world has credible evidence that climate change is a major challenge, but in terms of how to address this challenge, all countries are still learning with regards to the best solutions. That is why both the global approach to climate change and our own domestic approach are designed to build, learn and adapt as we go.

Canada's target under the Kyoto Protocol is to reduce its annual GHG emissions over the period 2008–2012 to a level 6 percent below our actual emissions in 1990 — a target that is the most challenging among Kyoto signatories (see Annex 3). Despite the challenge, the Government of Canada ratified the Kyoto Protocol because Canada recognizes the significant threat posed by climate change and believes we must share in the international effort to solve this global problem. Moreover, Canada recognizes the domestic benefits that climate change action will deliver — to our environment, our economy and our citizens. This plan takes a more comprehensive approach compared to the national climate change plans of most of the industrialized countries that are Parties to the Kyoto Protocol. In addition, many of our policies and measures are backed up by legislative and financial commitments.

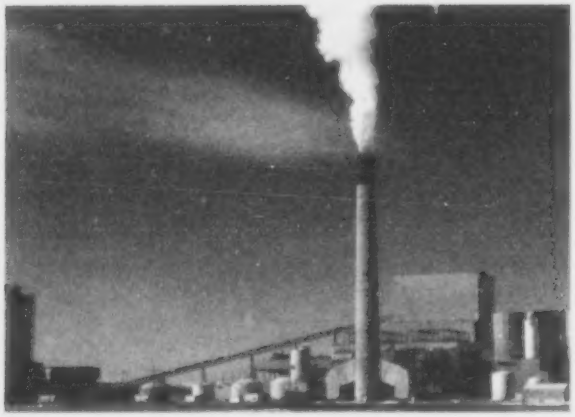
Our commitment to multilateral action is why we are welcoming the world on November 2005 for the Montreal Conference on Climate.

Our commitment to multilateral action is why we are welcoming the world in November 2005 for the Montreal Conference on Climate. This landmark international meeting on climate change is the 11th Conference of Parties (COP 11) and the first Meeting of the Parties to the Protocol (MOP 1). Through this event, Canada will chair the meeting that officially kicks off critical negotiations on how the world will move ahead on climate change beyond the Kyoto period ending in 2012.

Climate Change Actions So Far

We have already taken important steps to build on

Canada has been making significant investments in climate change action since 1998 (see Annex 5). Our efforts to date, including Action Plan 2000 and the *2002 Climate Change Plan for Canada*, have provided a solid foundation for moving forward. This 2005 Climate Change Plan builds on that foundation and will be a living, evolving framework that rewards innovation and success.



Action Plan 2000 put in place a range of programs targeting key sectors across the economy, such as transportation, buildings, renewable energy and cleaner fossil fuels, small and medium-sized enterprises, agriculture and forestry. The *2002 Climate Change Plan for Canada* added further measures.

In 2002, the difference between Canada's projected Business-as-Usual (BAU) emissions and our Kyoto target was estimated to be 240 megatonnes (Mt) of GHG emissions expressed in terms of CO_2 equivalent.[1] this basis, the *2002 Climate Change Plan for Canada* was composed of a range of new initiatives as well as developing a number of options for filling the remaining gap.

The programs set out in the 2002 Plan provide an important part of the foundation for the 2005 Plan. In the 2002 Plan, the estimate of emission reductions associated with these programs was 55–60 Mt. However, given experience over time, as well as a prudent approach to the estimation of emission reductions associated with the Large Final Emitter (LFE) system, it is now estimated that continued funding of these programs would deliver 40 Mt of emissions reductions annually over the 2008–2012 period.

In moving forward, we are building on the *2002 Climate Change Plan for Canada*. Budget 2005 launched a review of existing climate change programming, which is an important part of this Plan's commitment to ongoing evaluation. Programs that are effective will be renewed and extended as appropriate. Some funds will be reallocated, and we will make substantial new investments where it makes sense to do so. In making these decisions, cost-effectiveness, GHG impacts and co-benefits will be key criteria.

The *2002 Climate Change Plan for Canada* also outlined a proposed system of emission reduction targets for Canada's LFEs, which include companies in the mining and manufacturing, oil and gas and thermal electricity sectors. This Plan makes the design of the LFE system a reality, and outlines how emission reduction targets would be set, the mechanisms through which LFEs could meet their targets and the preferred regulatory option for implementing the system.

In the case of the automobile industry, Action Plan 2000 first announced the Government's intent to seek a significant improvement in automobile fuel efficiency. The *2002 Climate Change Plan for Canada* specified that the Government was seeking a 25 percent improvement in fuel efficiency of new vehicles sold in Canada in 2010, equivalent to a 5.2 Mt reduction in GHG emissions. A key component of the 2005 Plan is the agreement reached between the Government and the automobile industry that will result in actions on the part of industry to reduce automobile emissions by 5.3 Mt by 2010.

The *2002 Climate Change Plan for Canada* established a target of 10 percent of new electricity generating capacity to come from emerging renewable sources. Through Budget 2005, this Plan delivers a quadrupling of the Wind Power Production Incentive (WPPI) and establishes the Renewable Power Production Incentive (RPPI). Together these initiatives will allow us to exceed the 10 percent target of the 2002 Plan.

In the agriculture, forestry and landfill gas sectors, the *2002 Climate Change Plan for Canada* proposed to design a framework to enable GHG emission reductions and removals in these sectors to be sold as offsets in an emission trading system. In June 2003, the Government undertook cross-country consultations on the possible design of an offset system, and this Plan provides further detail on how such a system is proposed to work in Canada. As we implement the Plan, the Government of Canada will work with provinces, territories, Aboriginal peoples and stakeholders to confirm the details of offset system design.

[1] A megatonne is one million tonnes of CO_2 or one million tonnes of another GHG expressed in CO_2 equivalent terms.

In many areas, this Plan builds upon our past actions. The One-Tonne Challenge, established in the 2002 Plan as a means of enabling Canadians to take action, is strengthened through this Plan. Partnerships across governments were emphasized in the 2002 Plan, and the Opportunities Envelope and Memoranda of Understanding (MoUs) with provinces and territories were established to that end. In this Plan, through Budget 2005, a much more substantial Partnership Fund will be established to subsume and expand these previous efforts to promote a cooperative approach to climate change action. And this Plan deepens the 2002 Plan commitments by the federal government to take action on climate change within our own operations.

2005 Climate Change Plan

Budget 2005 laid the foundation for our Plan to fight climate change

This Plan builds on the principles set out in Budget 2005 to guide the Government of Canada's environmental investments:

- **Balance**: Investments must balance the need for short-term action to protect our natural environment and long-term measures to spur transformational change in public behaviours and business practices.
- **Competitiveness**: While building sustainable economic growth is an essential component of Canada's long-term international competitiveness, the transition to a sustainable economy must also weigh carefully the impact on short-term competitiveness.
- **Partnership**: To the greatest extent possible, investments in the environment should lever outside funds and encourage responses from industry, citizens and other orders of government.
- **Innovation**: Investments should promote innovation and support new technologies. Innovation feeds economic growth, creates new opportunities and provides long-term improvement in our environmental performance.

Investments should promote innovation and support new technologies. Innovation feeds economic growth, creates new opportunities and provides long-term improvement in our environmental performance.

- **Cost-effectiveness**: Initiatives should achieve environmental goals at the lowest possible cost.

Budget 2005 also took an important step in providing resources to the Plan. Funding included:

- **Clean Fund** (renamed the **Climate Fund** in this Plan): a minimum funding of $1 billion;
- **Partnership Fund**: $250 million, with the possibility that funding could grow to $2–3 billion over the next decade;
- **Renewable Energy**: $200 million for the WPPI, $100 million for the RPPI, and $300 million for tax incentives for efficient and renewable energy generation; and
- **Programs**: $2 billion for existing climate change programs.

The Budget noted that more action will be required in the future and that the Government will introduce additional measures as resources permit and as we learn from our domestic investments and international experience.

Our Plan is pragmatic and results-driven

The Plan defines the key measures and institutions that will guide our action, provides necessary incentives and funding and provides for risk management.

A variety of measures are employed, including market-based instruments, different approaches to funding, and regulation. The Plan engages actors across the economy and all levels of government and

a mix of domestic and international actions is proposed.

As the Plan is implemented, we will monitor emission reductions associated with the different elements, as well as the expenditures. Actual expenditures in certain areas could be lower than currently projected, while other mechanisms or programs that perform particularly well could see their funding levels grow significantly over time.

Our Plan will generate beneficial investments across the economy

Examples of beneficial investments include:

- Producers of renewable energy will benefit from the investment in the WPPI program and the RPPI program; these programs may also stimulate related industries in Canada.
- Significant emission reductions and carbon sequestration are expected to take place on farms, likely corresponding to an investment of at least $1 billion.
- Advanced forestry management practices are expected to be associated with an investment of about a quarter of a billion dollars in rural communities.
- Municipalities are expected to produce significant emission reductions through landfill gas capture and use, roughly corresponding to an investment of about a half billion dollars.
- The Plan will facilitate significant investment in major energy infrastructure projects, such as east-west electricity transmission, improved access for distributed technologies like cogeneration and renewable energy, development of clean coal technologies and carbon dioxide capture and storage.

These examples reflect federal initiatives only; they can be expected to increase due to leverage of provincial and private sector funding.

While the Plan focuses on reducing domestic emissions, international investments in emission reduction also have an important role to play. Such investments can be used to lever the penetration of Canadian technologies overseas, bring about environmental benefits that go beyond climate change (e.g., a reduction in mercury emissions that reach our borders) and further our broader national interests, for example, in the area of trade or general sustainability.

Initiatives are designed to establish Canada as a global leader in the field of environmental technology and thus develop a competitive advantage.

Our approach extends beyond the 2008–2012 Kyoto Period

On the international stage, we will take advantage of the opportunity offered by hosting the Montreal Conference on Climate to be active players in shaping the international agreement after 2012. In determining the specifics of Canada's international negotiation strategy, we will engage provinces, territories, Aboriginal peoples and stakeholders and draw on the advice and expertise of Canadians. We are confident that, with our international partners, we can develop an approach to global GHG emission reductions in the post-2012 period that builds on the strengths of the Kyoto Protocol, draws on our collective experience in fighting climate change since the Protocol was negotiated in 1997 and aligns environmental and economic goals and policy signals.

We are also looking to the post-2012 period in designing our domestic actions. For example, the emission targets for the LFE system (detailed in a later section) that will apply in the post-2012 period will be set through a consultative process. In addition, many of the investments we are undertaking will not only reduce our emissions in the 2008–2012 Kyoto period but also bring about substantial emission reductions after 2012.

As detailed in a later section, the Prime Minister has asked the National Round Table on the Environment and the Economy (NRTEE) to develop advice on a long-term strategic energy and climate change policy for Canada that, among other things, considers options for post-2012 GHG emission reduction targets.

Technology development is a key component of our approach

Encouraging innovation and the development of environmental technology is a key aspect of the Government's approach to climate change in the longer term. Initiatives are designed to establish Canada as a global leader in the field of environmental technology and thus develop a competitive advantage. New technologies can provide Canadians with the ability to reduce GHG and other harmful emissions while enjoying the benefits of a competitive economy.

In recognition of the importance of new environmental technologies, Budget 2005 announced the Government's plan to develop, by the end of 2006, a Sustainable Energy Science and Technology Strategy. The Government will contribute $200 million to the development and implementation of the strategy.

Promoting the development of innovative Canadian technologies is a recurring theme in our Plan. For example, the LFE system, detailed in a later section, sets targets for new facilities based on Best Available Technology Economically Achievable (BATEA) performance standards; in this way, we are taking an approach that builds-in the concept of best technologies available at any given time. Our approach to building strong partnerships with provincial and territorial governments to fight climate change gives a priority to the commercialization and deployment of innovative technologies. Investment in international emission reductions provides significant opportunities to promote the penetration of Canadian technologies overseas.

Our Plan is designed to help achieve key policy outcomes

As well as reducing GHG emissions to respect our Kyoto commitment, the Plan is designed to support the achievement of a number of important policy outcomes:

- competitive and sustainable industries for the 21st century;
- harnessing market forces;
- a partnership among Canada's governments;
- engaged citizens;
- sustainable agricultural and forest sectors; and
- sustainable cities and communities.

These policy outcomes, and the mechanisms in the Plan to achieve them, are discussed below. In putting forward this Plan to address climate change, the Government is focusing on doing the right thing, for the health of the planet and its citizens and the sustainable competitiveness of the Canadian economy.

This Plan requires collaborative action among Canada's citizens, governments, industry, environmental groups and other stakeholders. The Government of Canada will seek to access the knowledge and expertise of Canadians to achieve the intended results. Annex 6 lays out next steps in terms of engagement.

Meeting our climate change challenge

The challenge involved in meeting Canada's Kyoto target is sometimes expressed in terms of an "emissions gap" — the difference between projected BAU emissions in 2008–2012 (i.e., the emissions that would occur in absence of climate change action) and our Kyoto target of 6 percent below 1990 emission levels. Since our emissions in 1990 were about 596 Mt, this means that over the 2008–2012 period our emissions should not, on average, exceed 560 Mt.

Our Plan is not just about reducing GHGs but also about transforming the way our economy currently functions in terms of its impact on the climate.

In 2002, our emissions gap was estimated at 240 Mt. This estimate has now increased — Canada's economy is performing better than had been projected, and economic growth in key emissions-intensive sectors is now expected to be greater than had previously been projected. Between 1990 and 2003, our gross domestic product (GDP) grew by 43 percent, compared with the original forecast of 34 percent. As a result, the emissions gap is more likely in the area of 270 Mt, and could be greater.

The approaches set out in this Plan have the objective of closing our best estimate of the emissions gap. The federal investment required between 2005 and 2012 to undertake this Plan is estimated to be in the range of $10 billion. This includes $2 billion in funding for existing climate change programming. Much of this investment makes sense for reasons beyond climate change, such as helping to provide clean air, enhance industrial competitiveness, technological innovation and economic development, promote energy security and build sustainable cities and communities. Budget 2005 took an important step in allocating $5 billion over the next five years to address climate change and preserve our natural environment.

This Plan outlines a possible allocation of funding to the different elements. While we can establish a clear order of magnitude for overall investment, spending on the individual components will almost certainly differ from the profile laid out in the Plan due to ongoing review and evaluation. Ongoing evaluation and continuous learning may result in changes in investments and in the estimated emission reductions associated with different elements of the Plan.

While there are synergies between the various initiatives in the Plan, we have been careful to avoid double-counting in estimating emission reduction impacts. Our estimates of emission reductions and costs have drawn on a range of reliable sources, including modelling results.

At the same time, it is important to avoid spurious precision in estimating emission reductions and costs. We are making projections seven years into the future, in an area where past experience is not always a useful guide. Moreover, our Plan is not just about reducing GHG emissions but also about transforming the way our economy currently functions in terms of its impact on the climate. Projections, which are inevitably based on past experience, are useful and indeed essential, but they must not be given undue weight. Most countries, in building their climate change plans, have chosen not to engage in detailed, bottom-up, quantitative projections of megatonne reductions. While this is a difficult exercise, it adds discipline and facilitates performance evaluation.

The solution is transparency and continuous learning. Learning will be carried out not just with respect to emission reductions and associated costs, but more generally with respect to our success in transforming our economy consistent with Project Green. The Government will review and reallocate climate change spending on an annual basis to ensure that investments are effective and cost-efficient and result in real and verifiable GHG emission reductions. We will report annually to Canadians on our progress, beginning in 2008.

Building on Canadian experience

Canada has precedents to draw from in embarking on this climate change challenge. A few short decades ago, chlorofluorocarbons (CFCs) were widely used in a host of products across the economy, from refrigerators and air conditioners to asthma inhalers. In the

early 1970s, when science showed that CFCs were destroying the Earth's protective ozone layer, it was clear that urgent global action was needed. Canada and a handful of other countries led the international effort, ultimately resulting in the Montreal Protocol.

At the time, the phase-out of CFCs appeared to be an insurmountable task given technical and economic obstacles. Nonetheless, key industry leaders, facilitated by constructive public policy and citizen action, made breakthrough discoveries leading to new alternatives for CFCs that would not harm the ozone layer such as dry powder inhalers which now replace the old CFC-containing asthma inhalers. These new products and technologies not only have replaced CFCs, but in many cases have also resulted in more effective or energy-efficient products, delivering a double benefit. Today, the Montreal Protocol has 189 countries as Parties and has achieved the almost complete phase-out of CFC production and consumption world-wide.

Canada had a similar experience with acid rain. In the mid-1970s, there was conclusive scientific evidence that acid rain was causing extensive damage to many of the lakes and ecosystems in eastern Canada. Scientists advised that deep reductions in emissions were required to address the problem. In 1985, after more than five years of intense discussion with provinces and industry about the technical feasibility and costs of taking action, the federal government and the seven eastern provinces agreed to targets to cut sulphur dioxide emissions in the eastern provinces in half by 1994.

Canada was more than successful in meeting its target. By 1994, sulphur dioxide emissions in eastern Canada were 54 percent lower than 1980 levels, and today they are 70 percent lower. The innovative technology used by companies, such as INCO in Sudbury, to reduce their emissions has made them competitive leaders in the global base metals marketplace.

A third example is Canada's experience in eliminating the deficit. During the first years of the deficit fight of the 1990s, Canada faced important uncertainties as to the forecasted size of the deficit and the likely effectiveness of measures to address it. Through concerted action, the broad engagement of all citizens and sectors in addressing a common economic challenge, ongoing monitoring of results and continuous refinement of deficit-reduction measures, Canada was able to move beyond these uncertainties and eliminate its federal deficit far sooner than originally thought.

The Government will review and reallocate climate change spending on an annual basis to ensure that investments are effective and cost-efficient, and result in real and verifiable GHG emission reductions. We will report annually to Canadians on our progress, beginning in 2008.

In these three examples, Canada faced formidable challenges but nonetheless outperformed expectations. In each case, there was a plan to engage Canadians and facilitate achievement of shared objectives. We have every reason to believe that our action on climate change under the Kyoto Protocol will yield the same type of results. These experiences show us that success on climate change will depend less on the precision of forecasts and more on the ability and resolve of governments and Canadians to take action, mobilize around climate change objectives, monitor ongoing progress, recalibrate targets as necessary, quickly apply new knowledge and experience and continuously focus on measures that yield the best results. Most of all, our success in fighting climate change will depend on the innovative spirit and commitment of Canadian citizens, businesses, environmental non-governmental organizations and governments.

This Plan requires collaborative action among Canada's citizens, governments, industry, environmental groups and other stakeholders.

Elements of the Plan

Competitive and Sustainable Industries for the 21st Century

This Plan is designed to spur innovation and technological advancement, which is essential for the long-term transformation required to maintain a sustainable and competitive economy in the 21st century.

A sustainable economy produces goods and services that meet the demands of the domestic and global marketplace while generating low levels of waste and pollution. This Plan will help position Canada in the emerging world markets by increasing energy efficiency and encouraging greater reliance on renewable energy. At the same time, it will diversify our energy mix and bolster our energy security.

While domestic investments will cut pollution at home and abroad through exports of low-emitting technologies, Canada will work within the Kyoto Protocol framework to promote export of Canadian technologies that support the sustainable development aspirations of developing countries. Canada will do this because it is in our economic interests, and, just as importantly, we will do this because it is essential to achieving our domestic and global climate change goals. Canada will at the same time meet global responsibilities and seize global opportunities.

As noted earlier, a key element announced in Budget 2005 is the development of a Sustainable Energy Science and Technology Strategy. Investments in traditional and new sources of energy and innovative technologies resulting from this strategy and the Plan more generally will provide long-term environmental benefits, while maintaining a competitive and growing economy.

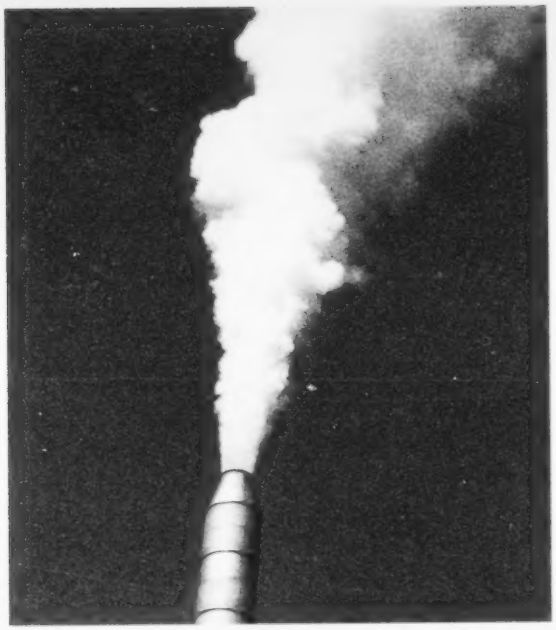
In addition, Budget 2005 made key tax policy changes that will improve productivity while helping businesses make the right environmental decisions, in other words, helping to make it more attractive to move now to make capital investments that will save energy and gain efficiency in the longer run. These enhanced tax incentives will contribute to reduced GHG emissions, better air quality and a more diverse energy supply. Further discussion of these tax changes is set out below in the section on Emerging Renewable Energy. In Budget 2005, the Government also committed to consult on other opportunities to use the tax system to further environmental objectives.

Large final emitter system

Canada's LFEs include companies in the mining and manufacturing, oil and gas, and thermal electricity sectors. These sectors make an important contribution to Canada's economic base, but they are also large contributors to our GHG emissions — just under 50 percent of total Canadian GHG emissions. They must play a significant role in meeting Canada's climate change goals.

The purpose of the LFE system is to secure emission reductions from Canada's largest emitters through a system that is market-based and in line with our policy regarding Smart Regulations. The LFE system will achieve significant reductions in GHG emissions in a manner that supports the continued competitiveness of our industry.

This Plan will help position Canada in the emerging world markets by increasing energy efficiency and encouraging greater reliance on renewable energy. At the same time it will diversify our energy mix and bolster our energy security.



The LFE system will cover about 700 companies operating in Canada; 80–90 of these companies account for approximately 85 percent of the LFE GHG emissions.

The *2002 Climate Change Plan for Canada* proposed an overall target for the LFE system of a 55 Mt reduction from the Business-as-Usual (BAU) baseline emissions projection for 2010 (i.e., the emissions that would occur in the absence of climate change action). The 2002 Plan stated that the system would include a number of adjustments, to address such issues as competitiveness, early action and regional burden. The system was to be implemented through the use of covenants (a system of contractual agreements between government and industry) with a regulatory or financial backstop.

As development of this system took place in consultation with industry over the last two years, it became clear that some sectors, particularly those with fixed process emissions (emissions which are driven purely by underlying chemical reactions and not by fuel combustion) faced competitiveness issues in reducing emissions. It also became clear that the proposed system of covenants backstopped by legislation added considerable complexity to the system.

Approach

The system that is being introduced respects all previous commitments that have been made concerning the LFE system, including that the cost of compliance to industry will not be more than $15 per tonne of carbon dioxide equivalent. Appropriate mechanisms will be implemented to achieve that price cap commitment. A summary of previous commitments and how they are being met is set out in Annex 2.

The description of the LFE system that follows addresses the broad parameters of the system only; elaboration of the system will be undertaken in the coming months in partnership with industry, provinces and territories, Aboriginal peoples and environmental groups, building on the work conducted over the past two years.

Target

In light of experience gained through consultations, the Government has decided to take a streamlined approach to the LFE system. The overall target for the LFE system has been reduced to 45 Mt and will be implemented in an administratively simple manner — there will be no downward adjustments through covenants. As such, the target is firmer.

The 45 Mt target is based on a BAU baseline to which methodological improvements have been made to the electricity component. This 45 Mt target is equivalent to a 39 Mt target using the baseline from the 2002 Plan. Sectoral targets, to be developed by activity on an emissions intensity basis, will be implemented as described below.

In order to establish LFE targets, it is important to take into account two types of emissions: fixed process emissions and all other types of emissions. However, there is a fundamental distinction between these two categories, owing to the fact that the levels of fixed process emissions cannot be controlled by industry, other than by lowering production entirely. By contrast, available technologies do permit industry to reduce other types of emissions without lowering overall production levels. The LFE targets in this Plan address this important distinction.

Total emissions are taken into account in setting the

sectoral targets. Fixed process emissions receive a zero percent target during the 2008–2012 period. All other emissions receive a 15 percent target. However, the targeted reductions from these other emissions as a percentage of total emissions cannot exceed 12 percent of total emissions.

Targets for new facilities and facilities undergoing major transformations will be based on BATEA performance standards. This approach will assist in promoting technological advances and innovation.

LFE companies will have a number of options for compliance:

- Investment in in-house reductions. This is likely to be the first priority of LFE companies, since it allows them to invest in their own facilities and profit from increased productivity and reduced waste associated with such investments in emission reductions and modernization.
- The purchase of emission reductions from other LFE companies that have done better than their target.
- Investment in domestic offset credits (credits attesting that a real emission reduction or carbon sequestration has been generated outside the LFE system — these credits may be purchased by LFE companies and used for compliance with their obligations).
- The purchase of international credits provided that these represent verified emission reductions — i.e., only "green" international credits will be recognized for Canadian compliance purposes. Investment in international credits may be linked to sales of Canadian technology and provides LFEs with experience in an international trading market that is likely to be of increased importance over time.

All of these options will either reduce Canada's own emissions or provide us with qualifying international Kyoto credits that represent verified emission reductions and GHG reductions elsewhere in the world.

It is important to note that the ability of companies to sell surplus emission reductions to other companies (or potentially to the Climate Fund, to be discussed later) provides an incentive for companies to go beyond their target. This is a key reason why early implementation of the LFE system is important, since without it there is much less financial incentive for companies to seek out opportunities to reduce emissions from their operations.

In addition to these options, LFEs would be able to invest in technology developments and count those investments for purposes of compliance. Legislation has been introduced in the House of Commons to establish a Greenhouse Gas Technology Investment Fund. The Fund would support the developments and deployment of innovative domestic technologies that can reduce GHG emissions. For the most part, investments in the Fund would not generate emission reductions until after the Kyoto period of 2008–2012. However, it is important to provide this additional compliance option to LFE companies so as to promote investment in Canadian technology and facilitate Canada's long-term transformational change.

Access to investments in technology development as a compliance option for LFEs would be limited to 9 Mt, meaning that the balance of the LFE target would be met through domestic in-house reductions, domestic offsets and Kyoto credits. Since investments in the Fund are not expected to generate emission reductions within the Kyoto 2008–2012 timeframe, these 9 Mts have not been included in the Plan accounting. Should LFEs invest less than 9 Mt in the Fund or should the Fund's technology investments lead to emission reductions in the Kyoto period, there would be additional emission reductions that are not counted in this Plan.

The proposed legislation establishing the Technology Investment Fund would cap the contribution rate at $15 per tonne for the 2008–2012 period.

Rigorous monitoring and reporting requirements will be put in place to support compliance and public accountability, while protecting the confidentiality of industry competitive practices.

Targets for the period beyond 2012 will be determined in partnership with provinces and territories, Aboriginal peoples, industry, environmental non-governmental organizations, and other stakeholders. Possible criteria that could be used to determine specific longer term targets include:

- consistency with global and Canadian long-term climate change objectives;
- alignment with the proposed National Energy Science and Technology Strategy;
- the aim to make Canadian industry best-in-class;
- Canada's international obligations; and
- recognition of sectoral capabilities and relative compliance costs.

Implementation

The broad parameters of the LFE system are set out above with detailed implementation of the LFE system to be carried out in partnership with provinces and territories, Aboriginal peoples, industry and environmental groups. Our approach builds on extensive discussion with various industry groups, and incorporates a specific proposal developed by the oil and gas industry on implementation of the LFE system. The development of the LFE regulation, beginning in spring 2005, will be the partnership vehicle for further cooperation.

The Government has committed to a regulatory approach to LFE emissions for a number of reasons. The significance of LFE emissions as a percentage of Canada's total emissions makes it critical to Canada's climate change effort that there be certainty about the emission reductions that will result from the LFE system. It makes sense for Canada to build experience with regulatory approaches as partners such as the countries of the European Union are doing. It is through a regulatory approach that LFEs will have access to domestic and international trading and the Greenhouse Gas Technology Investment Fund flexibility mechanisms that will be critical to Canada's innovation and economic competitiveness going forward.

The Government's preferred option for implementing the LFE system is the *Canadian Environmental Protection Act, 1999* (CEPA 1999). Using CEPA 1999 makes sense for a number of reasons. Using existing environmental protection legislation is the most supportive of the Government's policy on Smart Regulations rather than the creation of new legislation. In addition, since CEPA 1999 is already used to control other releases from many of these same sectors, it is administratively more feasible for both government and industry to use it also to regulate GHG emissions.

Rigorous monitoring and reporting requirements will be put in place to support compliance and public accountability, while protecting the confidentiality of industry competitive practices.

A key aspect of CEPA 1999 is its ability to facilitate equivalency agreements with provinces, territories and Aboriginal governments. The Government may conclude equivalency agreements with interested provinces and territories whose legislation and regulation achieves an equivalent environmental outcome. In such cases, there could be an equivalency agreement to the effect that provincial jurisdiction will achieve the same result. An equivalency agreement would have to deliver the performance of the national LFE regulation. It is the Government's intent to make maximum possible use of equivalency agreements in implementing the LFE system.

The Government's working assumption is that CEPA 1999 will be chosen as the legislative vehicle for implementing the LFE system. The Government would regulate under Parts 5 and 11 of CEPA 1999. In order to do so, GHGs must first be added to the list of substances in Schedule 1 to the Act, using the criteria set out in Section 64. International science clearly demonstrates that GHGs meet the second criterion for listing, namely that they constitute a danger to the environment on which life depends.

Some industry groups and provinces have expressed concern over the use of the term "toxic substance" in Section 64 of CEPA 1999. This is a broad-based concern that goes beyond the issue of GHGs. To address this concern and to focus attention on the criteria set out in Section 64, the Government has indicated its support for removing the term "toxic" in Section 64 and related sections of the Act. This ammendment would not alter the manner in which CEPA 1999 is currently administered and is not legally necessary in order to implement the LFE system under the Act.

It is important that implementation of the LFE system be timely, effective and efficient and be carried out in

a transparent manner. The Government will therefore consult Canadians on how CEPA 1999 could be used to implement the LFE system. As a vehicle for consultation, in spring 2005, the Government will release for public review and comment a draft Protocol setting out how CEPA 1999 could be used to implement the LFE system.

It is expected that the draft LFE regulation will be published for public review and comment in fall 2005.

Reductions

The overall target for the LFE system is a 45 Mt reduction from the revised baseline.

Automobile industry

The Government of Canada has been working with the automotive industry to reduce GHG emissions from light-duty passenger cars and trucks. These vehicles account for 12.5 percent of Canada's total GHG emissions and are a significant source of smog and other pollutants that affect the health and quality of life of Canadians.

The Government and the automotive industry have reached an agreement on emission reductions. This agreement will result in actions on the part of the industry to reduce GHG emissions through:

- improvements in advanced vehicle emissions and diesel technology;
- production of more alternative fuel and hybrid vehicles; and
- development and application of high fuel efficiency technologies.

A voluntary approach to emissions reduction in the case of automobile emissions was put forward in the Action Plan 2000; the proposal was given further elaboration in the *2002 Climate Change Plan.* A key consideration in choosing a voluntary approach was that the emissions result from use of a product purchased by Canadian consumers, not from a production process in a Canadian manufacturing facility.

The Government will monitor progress and employ its legislative and regulatory instruments as necessary to ensure achievement of the objectives of the agreement. It recognizes that, from a climate change perspective, it is important to reduce all GHG emissions related to vehicle operation, including tailpipe emissions of carbon dioxide, methane and nitrous oxide, as well as HFC emissions from air-conditioning systems. Rigorous monitoring will ensure that the target is met and that it is met by actions taken by the automobile industry.

In addition to the agreement, the Government has also asked the NRTEE to examine a possible vehicle "feebate," consult, and make recommendations to the Government for the next federal budget. A feebate would provide a consumer rebate for fuel-efficient vehicles and impose a fee on fuel-inefficient vehicles. The program could be designed to be revenue neutral for the Government.

Reductions

The automobile industry has agreed to reduce GHG emissions in 2010 by 5.3 Mt.

The Government proposes to use a variety of mechanisms to promote renewable energy, including production and tax incentives.

Emerging renewable energy

Emerging renewable energy (e.g., wind, solar, tidal power) can make an important contribution in Canada's fight against climate change, moving Canada's electric power generating sector towards lower emissions intensity in the long term, diversifying Canada's energy mix and promoting sustainable economic growth.

The Government proposes to use a variety of mechanisms to promote renewable energy, including production and tax incentives.

Budget 2005 provided greatly expanded incentives for renewable energy. The WPPI first introduced in Budget 2001, was quadrupled in Budget 2005 which allocated $200 million over five years to this popular program. This increases the target for new wind generating capacity to 4000 megawatts (MW), or the amount of power needed annually by approximately 1 million average Canadian homes. There will be no provincial caps or limits on project size, but there will be provisions to assure minimum access to the program for each province.

The expanded WPPI establishes the critical elements for Canada to realize the full potential economic benefits of a growing wind power industry. In addition to the environmental benefits, this initiative will support rural economic development, build a new economic sector and position Canada to be a leader in a vibrant wind energy industry in North America and internationally.

In addition to wind resources, many other forms of renewable energy are available in Canada. The competitiveness of renewable energy technology has improved in recent years as a result of technological developments and the increasing cost of more conventional technologies. There is an increasing need for these sources of power to meet growing electricity demand, while reducing impacts on the environment.

Therefore, in Budget 2005, the Government introduced the RPPI, with an investment of $97 million over five years, to support other renewable energy sources including small hydro, biomass, and tidal power. RPPI builds on the successful

WPPI program and is targeted to lead to 1500 megawatts (MW) of capacity. The incentive will result in more investment in renewable energy projects in all regions of Canada and will help to diversify Canada's energy mix. Projects that receive WPPI or RPPI may also be eligible for the offset system.

Budget 2005 also built on existing tax measures to encourage Canadian businesses to invest more in energy efficiency and renewable energy generation. It increased capital cost allowance from the already very favourable 30 percent to 50 percent for highly-efficient cogeneration equipment and the full range of renewable energy generation equipment currently included in Class 43.1 of the *Income Tax Act* (including wind turbines, small hydro facilities, active solar heating equipment, photovoltaics and geothermal energy equipment).

Allowing tax deductions for capital cost to be taken more rapidly will improve the after-tax return on these investments. The resulting financial benefit will support additional investments in technologies that contribute to a reduction in GHG and other harmful emissions and a more diversified energy supply. This enhanced treatment will be in addition to support available under WPPI and RPPI.

One important opportunity for deployment of cogeneration is in district or community energy systems, where heat or steam is produced in a central generating plant and distributed through a system of pipes to a district of nearby buildings. Budget 2005 extends Class 43.1 to include distribution assets of district energy systems such as pipelines,

In addition to wind resources, many other forms of renewable energy are available in Canada. The competitiveness of renewable energy technology has improved in recent years as a result of technological developments and the increasing cost of more conventional technologies.

pumps and meters where the heat energy has been produced using cogeneration equipment that qualifies for Class 43.1 treatment. These initiatives support private investment in district energy systems and complement the *New Deal for Cities and Communities*. Complementary support for cogeneration through the Climate Fund would make the Budget 2005 provisions all the more effective.

Accelerated capital cost allowance will also be extended to include certain equipment used to produce biogas (largely methane) from anaerobic digestion of farm manure, where the biogas is used to generate electricity. The use of biogas — a renewable energy source — to produce energy helps to reduce fossil fuel use, harmful emissions and agricultural pollution, as well as provide a new source of fertilizer.

The Government will also make qualifying start-up expenses of projects using these additional technologies eligible for treatment as Canadian Renewable and Conservation Expenses.

The Government will continue to review other investments for inclusion under Class 43.1 to ensure that appropriate incentives are provided for investment in efficient and renewable energy generation equipment.

Budget 2005 also undertook to actively consider other opportunities to use the tax system to support environmental objectives, in areas where it would be an appropriate instrument. It set out a framework and general criteria that may guide this assessment. Emission reductions from this exercise are not counted in this Plan.

Reductions

It is estimated that the combination of federal support through WPPI, RPPI, Budget 2005 tax incentives and other initiatives, as well as supportive provincial actions through measures such as renewable portfolio standards, could lead to renewable energy contributing about 15 Mt of reductions annually in the 2008–2012 period.

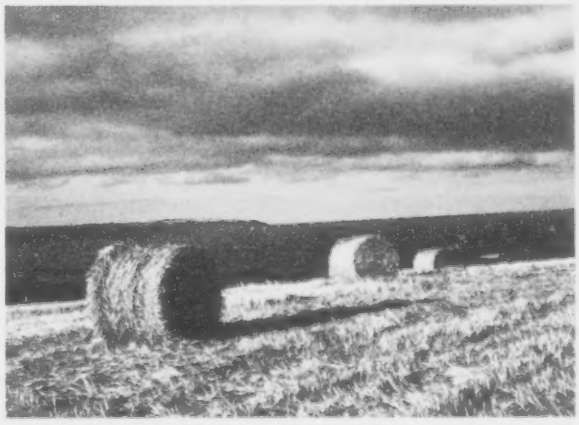
Harnessing Market Forces

Market mechanisms will be used to tap GHG emission reduction potential across the economy.

The Climate Fund established in Budget 2005 is a market-based, results-oriented mechanism to encourage emission reduction initiatives. Creation of this transformative institution is the single most important distinguishing feature between this Plan and the Government's past approaches to climate change. This Government believes that market-based approaches are critical to integrating climate change considerations into the day-to-day decisions of Canada's citizens and businesses and unleashing the power of innovation so as to move Canada towards a low-emissions trajectory.

Climate Fund

The purpose of the Climate Fund is to create a permanent institution for the purchase of emissions reduction and removal credits on behalf of the Government of Canada, which will be one of the primary tools for Canada's approach to climate change.



By tapping the potential of the market, Canada will:

- stimulate innovation;
- enable Canadians to take action;
- encourage energy efficiency;
- deliver cost-effective reductions and sequestration;
- drive the adoption of best available technologies; and
- stimulate the development of a domestic emissions trading system.

The Climate Fund will be results-based, with a focus on real and verifiable emission reductions.

Approach

Announced in Budget 2005, the Climate Fund will purchase domestic emission reductions and, in those cases that are demonstrably in the national interest, international reductions that are recognized under the Kyoto Protocol. It will make its purchases through a competitive process.

In a timely fashion, the Government will consult with Canadians on the specifics of how the Climate Fund may best achieve its mandate.

Domestic reductions

As a first step, individuals and organizations planning to substantially reduce or sequester emissions will apply to an offsets body under the authority of the Minister of the Environment to have their projects recognized as eligible for domestic offset credits. Once the emission reductions have occurred, this separate body will award credits for reductions. Opportunities for reduction and sequestration will be available across the economy. Potential examples include:

- farmers who adopt low-till or zero-till practices;
- forestry companies that engage in state-of-the-art forest management practices;
- property developers that include district heating and renewable energy elements in their plans for new subdivisions;
- businesses that develop innovative ways to reduce emissions through recycling and energy efficiency;
- companies and municipalities that invest in their communities by encouraging alternative transportation modes;

- municipalities that capture landfill gas and use it to generate electricity;
- large emitters that do better than their regulated emission targets;
- new electricity generation projects that lead to incremental GHG emissions displacement;
- remote communities that convert electricity generation from diesel to renewable resources; and
- companies and their employees that pool collective emission reductions from activities such as tele-commuting.

The Fund will contribute to Canada's sustainable competitiveness by encouraging Canadians to seize cost reducing opportunities across the entire economy.

As a second step, credits that have been issued for qualifying projects will be purchased by the Fund pursuant to a competitive process and retired on behalf of Canada's commitment to Kyoto.

There will be a minimum project size for qualifying emission reductions or carbon sequestration, so as to ensure that administrative costs do not outweigh the value of the environmental benefit.

The Fund will also engage in advance purchase of emission reductions from large strategic projects in partnership with the private sector. For example, projects that have the potential of generating significant GHG emissions in which the cost per tonne is initially high but is expected to fall over time could be considered if the project would contribute to the structural change necessary to move Canada to lower carbon intensity over the longer term. Conditions around advance purchases will be set so as to require

What is an offset credit?

Projects that result in emissions reductions or sequestration could earn offset credits.

- **Reductions** occur when emissions released into the atmosphere by a source are decreased. For example, property developers that include district heating and renewable energy elements in their plans for new subdivisions could earn offset credits for the resulting emission reductions.

- **Sequestration** occurs when emissions in the atmosphere are trapped in a sink. For example, farmers who adopt low-till or zero-till practices or forestry companies that engage in state-of-the-art forest management practices could earn offset credits for the resulting sequestration.

Individuals and organizations that reduce or sequester emissions will be able to apply to a body under the authority of the Minister of the Environment for offset credits. To qualify for credits, certain criteria established by the Minister would have to be met. For example, emission reductions would have to go beyond BAU practices, so that offset credits are not awarded for reductions that would occur in the absence of the offset system.

Verification of projects against the criteria will be carried out and credits will be issued for qualifying reductions. Aggregation and verification of these reductions will be provided by all manner of actors in the economy, from municipalities to industry associations to private sector brokers and auditors.

Individuals or organizations awarded offset credits have a few options. They can retire their credits, helping Canada respect its Kyoto commitment, or they can sell them. Buyers would include companies facing emission reduction targets under the LFE system, who could use the credits to comply with their targets. The Climate Fund will also purchase offset credits through a competitive process and retire them, helping Canada respect its Kyoto commitment.

The Government will be consulting Canadians on the proposed rules for offset credit creation in the coming months.

repayment to the Fund should the associated GHG emission reductions not be realized.

Projects that receive funding from the Climate Fund may also be of interest to the Partnership Fund (see page 25) and the Greenhouse Gas Technology Investment Fund, allowing synergies to be realized between the different mechanisms. A monitoring program will be implemented to ensure that there is no double-counting of tonnes.

Legislation has been introduced in the House of Commons to establish the Fund. Aspects of the Fund's mandate, such as how to ensure benefits to Canada from investment in international emission reductions, will be put forward for public review and comment in spring 2005. At the same time, the proposed criteria to be used in reviewing projects will be published. Project reviews, and the registration of eligible projects could begin as early as fall 2005, the same timeline that applies to the selection and initial signing of contracts for projects generating Kyoto credits. Initially, priority could be given to project types where quantification methodology is well advanced, such as afforestation, agricultural sinks and landfill gas capture projects.

International investments

The Climate Fund's primary mandate is to promote domestic GHG emission reductions, with a view to positioning Canada to compete in the 21st century carbon-constrained global economy. The Fund will also invest in internationally recognized Kyoto emission reductions through the Clean Development Mechanism

and Joint Implementation, as well as through procedures for "greening" other international credits. Only "green" credits — i.e., credits that represent real and verified emission reductions — will be recognized; there will be no purchases of so-called "hot air."

Investment in international emission reductions will be undertaken in a manner that advances Canada's broader sustainability interests. Specifically, investment in international emission reduction projects would have at least one of the following characteristics:

- apply Canadian technology;
- improve Canada's international competitiveness;
- expand Canada's trade or otherwise advance our national interest (e.g., deliver environmental benefits by reducing the mercury that reaches our borders); and
- advance Canada's international development objectives.

In the initial years, Fund purchases will primarily be directed to domestic projects. During this period, participation in the international market will take the form of purchases from emission reduction projects in developing countries and some purchases of options for future investment in "greened" credits. It is expected that the Fund's participation in the international carbon market will evolve over time, as we gain experience and our domestic climate change regime develops.

To facilitate the process of international purchases, the Government may develop MoUs with countries of interest. The "greening" of any international credit purchases would be governed by a bilateral agreement between the government of Canada and the seller country in which Canada would want to ensure both environmental benefits and trade benefits for Canadian companies. Such agreements would ensure environmental benefits by stipulating that 100 percent of the proceeds from the purchase must be reinvested in projects and activities that contribute to GHG emission reductions in the seller country.

Reductions

Budget 2005 provided minimum funding of $1 billion. It is estimated that the Climate Fund could yield in the order of 75–115 Mt of reductions annually in the 2008–2012 period, with funding in the order of $4–5 billion.

It is not possible to predict how many of these reductions will occur domestically. The Climate Fund will give a priority to domestic emission reductions. However, the amount of domestic emission reductions that will be realized depends on many factors, including: the entrepreneurial spirit of Canadians and their interest in finding innovative means of reducing emissions; the success of the Climate Fund in tapping into that spirit of entrepreneurship and innovation; how "market friendly" are the rules for domestic offset creation; and the economic and fiscal circumstances at that time. The Government has great confidence in the innovative spirit of Canadians; a great deal of interest is already being expressed with respect to the Climate Fund.

The Climate Fund will also invest internationally. However, just as it is not possible to predict the scale of domestic emission reductions, it is not possible to say at this point how many international reductions Canada may seek to purchase.

International trading market for carbon

Canadian investment in international emission reductions can be an important vehicle for the promotion of Canadian technologies. International trading in GHG emission reductions is expected to become a feature in global efforts to combat climate change. It should be noted that a tonne of GHG emissions reduced anywhere in the world contributes to the global climate change challenge. The Climate Fund's participation in the international carbon market will provide Canada with both environmental and economic advantages.

From an environmental perspective, the Fund will purchase from projects that use technologies that deliver co-benefits — i.e., that not only reduce GHG emissions, but also reduce other harmful emissions. For example, mercury emitted from coal-burning power plants in other countries leads to serious health and environmental impacts on Canada. Canadian investment in cleaner energy generation overseas might therefore provide multiple benefits to Canada.

From an economic perspective, Canada will use these international investments to develop and deploy its expertise in the field of environmental services and technologies. The international market for climate change technologies is growing quickly. Government investments in international credits will give Canadian innovators early and supported exposure to identify and develop technologies with strong international applications. This type of assistance is often all that is required for a promising technology to reach a stage at which it is competitive on its own.

Projects in the areas of renewable energy, biogas capture, clean coal, carbon sequestration, pipeline retrofits and efficiency and conservation projects can demonstrate Canadian goods and services and increase field experience in foreign markets.

Investment in international emission reductions, in conjunction with or parallel to addressing climate change impacts, can also advance development objectives. Developing country GHG emissions are expected to surpass industrialized country emissions in the coming decades; a combination of technology transfer and development assistance is needed for the sustainable development of these countries. This approach was key to the success of the world's efforts to address the depletion of the ozone layer. In the climate context, these strategies would reduce GHG emissions, promote sustainable development, and prevent thousands of premature deaths from air pollution in developing countries.

In addition to these immediate economic and environmental benefits to Canada and development benefits, the experience acquired by the Climate Fund in international trading for carbon emission reductions will position Canada to influence and benefit from the future evolution of the market.

Similarly, the experience gained by Canada's LFEs in international carbon trading will prove advantageous in the post-2012 period.

A Partnership among Canada's Governments

Recognizing the necessity of cooperative action, this Plan will leverage investments across all orders of government to realize success in our fight against climate change.

Climate change is a challenge that affects all jurisdictions, and so our response must be a national one that reflects our federal structure. This means a joint effort, with all orders of government — federal, provincial, territorial and municipal — working together within their own areas of responsibility to make a contribution and deliver a harmonized approach.

Partnership Fund

Canada's provinces and territories play a fundamental role in achieving climate change goals. The *2002 Climate Change Plan for Canada* made a good start in developing effective federal-provincial-territorial partnerships. Pursuant to the 2002 Plan, Budget 2003 provided $160 million for an Opportunities Envelope to fund emission reduction projects of interest to federal, provincial and territorial partners. We have also initiated MoUs with interested provinces and territories.

However, much more is needed to maximize the potential of partnerships with provinces and territories and with Canada's industry. Enhancing these efforts is critical to Canada's success in transforming our economy, fighting climate change and protecting our environment. The Partnership Fund will be the key vehicle to do that.

Approach

The Government of Canada will strengthen its partnerships with provinces and territories.

MoUs will be developed where none currently exist and MoUs that are already in place will be enhanced. These agreements will focus on achieving Canada's climate change goals in the short and long term, as well as bringing about the transformational changes necessary for ensuring the competitiveness of the Canadian economy in the 21st century. They will identify goals and strategies for key sectors of the economy in each province and territory and areas of synergy and collaboration among provinces, territories and with the federal government. Examples of such synergies include the setting of building codes by provinces and appliance standards by the federal government.

Newly created in Budget 2005, the Partnership Fund will support these government-to-government agreements through cost-sharing. Through the Partnership Fund, the Government will invest in technologies and infrastructure development that are important to both orders of government, such as clean coal technology. Nearly 70 percent of Canada's coal-fired power plants are due to retire by 2020. Clean coal technology offers the potential to reduce a plant's emissions significantly over its 40-year lifetime. To ensure that we can achieve these reductions in the future, it is critical that investments in clean coal technology are made today. Other strategic investments could include a carbon dioxide capture and storage pipeline, cellulosic ethanol plants, east-west electricity transmission grids and other options related to the phase-out of coal-fired power plants. The Fund will also explore options for more efficient integration of intermodal freight transportation.

These investments in major projects are expected to contribute significant emission reductions in the Kyoto period. Some projects are likely to deliver the greater

Canada's provinces and territories play a fundamental role in achieving climate change goals.

part of their emission reductions after 2012. Priority in investments under the Partnership Fund will also be given to projects that will deliver reductions in the 2008–2012 period.

It is expected that, under the Partnership Fund, investment will also be made in smaller projects of a local nature, including, for example, the cost-sharing of climate change centres in each province and territory along the lines of Alberta's Climate Change Central. It could also support national strategies in areas such as demand-side management, conservation and combined heat and power (cogeneration).

To ensure that emission reductions are incremental, the Partnership Fund will be coordinated with existing complementary federal climate change measures, such as the Climate Fund and the Green Municipal Funds, and with other federal investments expected to contribute to climate change, such as the *New Deal for Cities and Communities*. An important thrust of the Fund will be enhanced synergies among provinces and territories in fighting climate change. The Partnership Fund would subsume and expand the current Opportunities Envelope.

The Partnership Fund will also support partnerships between governments and Canadian industry on major emission reduction projects. It may also work together with the Climate Fund and Technology Investment Fund in supporting certain projects.

Reductions

Budget 2005 provided funding for the Partnership Fund of at least $50 million per year for the next five years, with amounts to be augmented as projects are identified and developed. It indicated that funding could grow to $2–3 billion over the next decade.

The amount of emission reductions that may be generated through the Partnership Fund will depend on the level of federal funding, the willingness of provincial and territorial governments and the private sector to enter into partnerships, and the availability of innovative projects. It is estimated that with federal funding in the order of $2–3 billion and with the leverage it could create with other sources of funds, the Partnership Fund could yield GHG emission reductions of 55–85 Mt annually in the 2008–2012 period.

Greening Government

In order for the federal government to be a true partner with other orders of government, and indeed with Canada's citizens, it must demonstrate leadership in climate change action. Major steps have already been taken. The Government builds all its new facilities to be 25 percent more energy efficient than the existing Model National Energy Code for Buildings. Government has committed to retrofitting a further 20 percent of its commercial buildings by 2010 to improve energy efficiency, financed through energy cost savings.

To date, 7,000 federal buildings — about 30 percent of the federal building stock — have undergone energy audits under the Federal Buildings Initiative. The follow-up work undertaken has resulted in a total savings of $27 million a year on energy bills and a reduction in GHG emissions of 20 percent on average. Important steps have also been taken to reduce GHG emissions from federal vehicles and to engage employees in reducing emissions in their everyday actions.

Approach

The Government of Canada will build on its achievements to date by ensuring that its internal operations are among the "greenest" in the world. The federal government spends over $13 billion per year on goods and services and will use this purchasing power to demonstrate leadership in climate change action. The Government will implement a new Green Procurement Policy to govern its purchases by 2006.

Green Procurement, including life cycle costing, will be a priority and will include purchases of energy, in

particular electricity; purchases of other goods and services, such as automobiles; and investments in new fixed assets, such as buildings.

The federal government will seek innovative means of modernizing its central heating and cooling plants with increased involvement of the private sector. This modernization is key to further reducing the GHG emissions of its office-building inventory. The Government will also explore partnerships with the private sector and other stakeholders to access innovative technology for this project and leverage its investment to benefit the broader community, including possible participation in community energy system projects.

To lead by example and encourage a focus on sustainability in the Canadian marketplace for real property, the Government will ensure that as of 2005, the construction of new government office buildings will be funded to meet the Leadership in Energy and Environmental Design Gold standard. Buildings meeting this standard use, on average, slightly over one-half of the energy required by the average equivalent office building currently in the Government's inventory. This standard will also be sought in the case of new long-term leases.

The Government will also take a series of measures to ensure that its fleet of vehicles is among the greenest in the country, including:

- replacing its vehicles more quickly and choosing more efficient models;
- significantly increasing its purchase of hybrid vehicles and vehicles that operate on E85 and other alternative fuels; and
- adopting more stringent user practices such as anti-idling and vehicle sharing.

Provincial, territorial and municipal governments also have similar initiatives to reduce GHG emissions from their operations. All governments of our federation will learn from each others' experience in this area. To the extent that GHG emission reductions will occur as the result of actions from provincial, territorial and municipal governments, they are not counted in this Plan.

Reductions

Total federal emissions are about 3 Mt annually. The Government is setting a target to reduce these emissions by 1 Mt annually over the 2008–2012 period, to be funded primarily through internal reallocation.

Engaged Citizens

A sustainable environment is important to Canadians, and this Plan will provide citizens with the tools they need to take action.

Together, individual Canadians are responsible for 28 percent of Canada's GHG emissions. On average, each Canadian produces 5 tonnes of GHGs annually. Therefore, their buy-in and active involvement are critical if we are to achieve our climate change and sustainability goals.

Canadians need to take action themselves and can play an important role in driving sustainability improvements in communities and industry. In the longer term, increasing the awareness of Canadians will help to create a generation that understands and embraces sustainability.

One-Tonne Challenge

To date, initial steps have been taken to engage Canadians in the One-Tonne Challenge, a public education program launched to challenge Canadians to reduce the 5 tonnes of GHGs each citizen produces annually to 4 tonnes. These steps are focused on:

Information Products & Tools: An on-line GHG calculator helps Canadians determine their current emissions and build 1-tonne reduction plans.

National Awareness: A major national advertising campaign on television, print and radio encourages Canadians to get a copy of the Guide so that they can take part in the Challenge.

Communities: More than 40 communities are rolling out Community Challenges involving more than 200 organizations and local governments. They are engaging individuals in reducing GHG emissions and making local investments to create healthier, more sustainable communities for all their citizens.

Youth: A network of youth organizations has created a youth version of the One-Tonne Challenge and is working with youth across the country on local emissions reduction or education projects.

Educators: Expert teachers from across the country are helping to create lesson plans and other web based resources on climate change that will be accessible to all educators.

Private Sector: Retailers are linking the marketing of energy-efficient products to the One-Tonne Challenge goal. Many employers are creating Challenges targeted to their employees.

Consumers: The "*Guide to the One-Tonne Challenge*" provides more than 20 pages of tips to consumers for saving money (and reducing GHG emissions). This includes an EnerGuide for Houses audit, which can lead to savings of 20–35 percent on heating bills. In addition, tips are provided for reducing costs at the gas pump by driving more efficiently, selecting a fuel-efficient vehicle or keeping vehicles tuned. Through a searchable database on the One-Tonne Challenge web site, consumers can find out about the current rebates and incentives available to them from all orders of government to reduce GHG emissions.

While a good start has been made, more needs to be done.

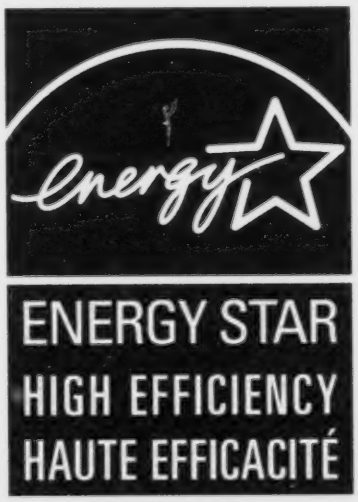
Approach

The One-Tonne Challenge will build on work to date to increase awareness, knowledge, commitment and action by Canadians. In particular, we will work with partners in communities, youth groups, private sector and educators to provide real opportunities for Canadians to make lifestyle changes and informed purchases to reduce individual emissions by at least 20 percent. National promotion will focus on improving access for Canadians to programs and services from all orders of government that provide them with consumer information, technical advice and incentives for action.

Canadians need better information to allow them to make informed decisions about products they are considering. Product marks such as ENERGY STAR®, EcoLogo™ and EnerGuide will be a focus of point-of-sale and other promotions to help Canadians in their search for greener products. Government, through partnerships with retailers and utilities, will also build consumer confidence in green products and green power.

The One-Tonne Challenge program will actively promote opportunities presented by the Climate Fund.

Vehicle fuel efficiency improvements provide a significant opportunity for partnerships with vehicle



> Canadians need better information to allow them to make informed decisions about products they are considering.

manufacturers and dealers. The One-Tonne Challenge will work with these groups to ensure that Canadians have the information and tools they need to make informed purchases and operate their vehicles in the most efficient way.

Partnerships with provinces and territories, including new investments in regional Climate Change Centres, shared delivery of Community Challenges, co-promotions to help increase transit ridership, and joint efforts to increase the capacity and provide support to environmental groups to help deliver GHG emission reductions, will bring programs and services closer to the individuals who need them. Climate Change Centres for example, will provide emission reduction expertise, technical advice and service to individuals, local business and communities.

Climate change centres will also provide regional capacity for the Federation of Canadian Municipalities' Partners for Climate Protection Program. The Federation of Canadian Municipalities will still need to play an important role at the national level in recruitment, coordination and recognition and will receive support to do so for at least the next five years.

When it comes to small and medium-sized enterprises, the Government of Canada will build on a successful model developed by Environment Canada in Quebec. The model is Enviroclub, which helps company managers in small and medium-sized enterprises to better understand the profitability advantages of environmental management and provides hands-on experience by taking on a pollution prevention project within each of their plants.

The 41 community challenges under way will continue to be supported over time to allow them to make substantive gains in GHG emission reduction and to learn collectively the most effective interventions when it comes to engaging consumers in the challenge.

At least 20 additional community challenges will be supported, and longer term investments will be made in those already under way.

We will engage Aboriginal and northern communities in climate change activities and undertake specific initiatives to address GHG emission reductions.

In sum, what is being launched is a strengthened and more focused public engagement effort that will help move Canadians from concern to action.

Reductions

The challenge to Canadians will be to collectively generate 5 Mt in incremental reductions annually over the 2008–2012 period. Additional funding of $120 million would be provided to bring this about.

Programs

Climate change programs have an important role to play in generating emission reductions, promoting early action, improving our understanding of climate change and laying the groundwork for long-term behavioural, technological and economic change.

Since 1998, the Government has made incremental investments in climate change though successive

budgets. These investments, touching all sectors of the economy, were aimed at the "low hanging fruit" — those measures that put us on the path to emission reductions at the lowest cost. Of the $3.7 billion set aside in previous budgets for climate change, approximately $700 million remains unallocated, while a further $1.1 billion of the funds allocated is intended for use in the coming fiscal years.

Approach

In moving forward, the Government will learn from past investments.

As indicated in Budget 2005, the Government will undertake a comprehensive review of existing programs to determine which programs should be maintained or expanded, which programs should be modified and which programs have been performing below expectations or have outlived their usefulness and so should be terminated. Savings in terms of funds previously allocated will be redirected. A key criterion for a program to continue will be its ability to deliver cost-effective emission reductions over the short and long term.

Some programs have already been identified as clearly successful and will continue or be expanded. For example, Budget 2005 invested $225 million over five years to quadruple the number of homes retrofitted under the successful EnerGuide for Houses Retrofit Incentive, from 125,000 to 500,000. This program is designed to help homeowners reduce their energy consumption by offering grants for people who improve the energy rating of their houses.

In the transportation sector, we have a range of programs aimed at encouraging private motorists to develop energy-efficient purchase, use and maintenance practices. Key components include the EnerGuide fuel consumption label and the annual Fuel Consumption Guide, which provides fuel consumption data for new light-duty vehicles, as well as the Idle-Free Campaign, which seeks to curb vehicle idling. These initiatives help individual Canadians understand how their automobile purchase decisions and driving habits affect climate change and the environment.

Another program that has clearly demonstrated its value is the Green Municipal Funds, which directs funding to municipalities for innovative sustainability projects. Thus far, the Green Municipal Funds have been effective in stimulating community-based feasibility work and green infrastructure investments, contributing to more than 340 projects across the country. Budget 2005 allocated $300 million for the Green Municipal Funds ($150 million of which will be used to help communities remediate and redevelop brownfields, which are abandoned sites where environmental contamination exists).

New programs will be introduced where a clear rationale exists, including a demonstration that the objective can be best accomplished through a program rather than a market mechanism such as the Climate Fund.

Reductions

Budget 2005 provided $2 billion for existing climate change programs. It is estimated that continued funding of these programs through 2012 could yield up to 40 Mt of GHG emission reductions annually in the 2008–2012 period. There is no overlap between the emission reductions expected to be generated from these programs and our LFE target.

Sustainable Agriculture and Forest Sectors

This Plan recognizes our abundant forests and agricultural land as national advantages that Canada has in our fight against climate change.

This Plan recognizes our abundant forests and agricultural land as national advantages that Canada has in our fight against climate change.

Sinks occur when GHG emissions are removed from the atmosphere and stored elsewhere, such as in forests or agricultural soils. Sinks are an important component of Canada's overall approach to climate change and also contribute to biodiversity and conservation objectives. In the international negotiations on Kyoto, Canada received recognition for the contribution its ongoing practices make to biological carbon sequestration — this contibution is commonly termed BAU sinks and is counted towards our Kyoto target.

Approach

By definition, BAU sinks are the result of the continuation of existing practices.

However, it is estimated that Canada's biological sinks can play a much greater role in fighting climate change. Biological carbon sequestration beyond BAU levels will be incented through the Climate Fund and through Government initiatives aimed at protecting ecological lands. It is estimated that the potential for beyond BAU agriculture and forest sinks is in the order of 15–20 Mt. How best to measure and incent incremental carbon sinks will be determined in partnership with the provinces, territories, Aboriginal peoples, farmers, forestry companies and other stakeholders.

These measures will also allow us to gain significant co-benefits from carbon sink enhancement, including conservation of natural habitat and preservation of Canada's biodiversity.

Organizations such as the BIOCAP Canada Foundation, a national not-for-profit research foundation, play a very important role in advancing our understanding of the role of our natural resources in climate change.

Reductions

In agriculture, BAU practices are predicted to generate a carbon sink of 10 Mt in the Kyoto commitment period of 2008–2012. An incremental sink of 16 Mt or more beyond BAU levels may be possible through practices such as reduced tillage, less summerfallow and increased use of forage which could be incented through the Climate Fund. Incremental emission reductions from agriculture could result from activities such as beef feeding strategies and hog manure management.

With respect to forestry, the projection in the *2002 Climate Change Plan for Canada* was that existing forest practices would result in a BAU carbon sink of 20 Mt. Federal and provincial governments are currently working towards a revised estimate; that estimate could fall to zero as a result of the Mountain Pine Beetle infestation and forest fires in British Columbia. An incremental sink of 4 Mt beyond BAU levels may be possible through practices such as afforestation, reforestation and avoided deforestation which could be incented through the Climate Fund.

Sustainable Cities and Communities

This Plan recognizes the synergies between the parallel efforts of fighting climate change and greening our cities and communities.

A large portion of GHG emissions — as well as the opportunities to reduce them — are directly or

This Plan recognizes the synergies between the parallel efforts of fighting climate change and greening our cities and communities.

indirectly associated with urban regions. As of 1990, municipalities directly controlled about 38 Mt of GHG emissions.

The Government of Canada's *New Deal for Cities and Communities* will help advance climate change goals.

Approach

The New Deal includes a targeted gas tax transfer of $5 billion of federal funds over five years to support environmentally sustainable infrastructure. This will help to reduce Canada's GHG emissions and encourage more efficient use of energy through investments in sustainable infrastructure such as landfill gas capture, community energy systems, solid waste management, capacity building, and especially public transit, which is a key focus of the New Deal where investments will make gains in the areas of climate change, smog and congestion in our urban centres.

The New Deal aims to transform how infrastructure investments are made in our cities and communities, by providing an outcomes-driven vision for community and city sustainability. The gas tax transfer will support capacity building to enable municipalities to develop and implement long-term, integrated sustainable plans, focused on the achievement of commonly-defined sustainability outcomes.

Budget 2005 committed to renew the Canada Strategic Infrastructure Fund, the Municipal Rural Infrastructure Fund and the Border Infrastructure Fund. The Government's infrastructure programs contribute towards environmental sustainability, including reducing GHG emissions. For example, in total across Canada, a minimum of 60 percent of funding under the Municipal Rural Infrastructure Fund, with a minimum of 40 percent per jurisdiction, will target "green infrastructure" that provides a better quality of life and promotes sustainable development.

The Partners for Climate Protection program includes more than 120 municipalities committed to GHG emission reductions. In addition, InfraGuide, a series of infrastructure best practices funded by Infrastructure Canada, develops best practice tools that can be used to help municipalities cut GHG emissions and adapt to climate change.

Reductions

While the New Deal can be expected to generate important GHG reductions in the Kyoto period, the magnitude of those reductions will depend on the conclusion of agreements with provinces and territories. Consequently, this Plan does not include those reductions.

Conclusion:
Kyoto and Beyond

This Plan lays out a set of comprehensive policies and programs that will enable Canada to respect its Kyoto commitment in the short term and will position Canada for the longer term challenge of climate change by mobilizing Canadians in a national effort. It is a Plan that makes sense for Canada's future.

This suite of actions will also advance a number of objectives beyond climate change: cleaner air, a sustainable environment, a competitive and sustainable economy, advancement of Canada's international agenda, green communities, enhancement of biodiversity, preservation of wild spaces and improved health for our citizens.

As a framework, this Plan serves to guide Canada's actions on climate change. Risk management is a key consideration and is provided for through on-going evaluation. Climate change spending will be reviewed and reallocated on an annual basis, to ensure that investments are cost-efficient and result in real GHG emissions reductions.

This plan is comprised of the following key components:

- The Climate Fund is a market mechanism that stimulates innovation, drives the development and adoption of technology, and enables a broad range of action across the economy.
- The Large Final Emitter System, also market-based, is a showcase of smart regulation; it achieves significant reductions from Canada's largest emitters while supporting their continued competitiveness.
- Partnerships with provinces and territories are a critical element of the Plan.
- The automobile industry and the renewable energy industry both play key roles, as do the technologies that provide for carbon sinks.
- Enhancement of tax incentives is an additional way that the Plan uses market forces to provide for economy-wide action.
- The Government of Canada also has a duty to lead by example, and will Green its own operations, and re-align its own programming.

As a next step, the Government will be engaging provinces, territories, Aboriginal peoples and stakeholders on both the overall framework and specific elements of the Plan. Our approach to engaging Canadians is provided in Annex 6.

Science and Adaptation

Climate change is a long-term challenge, and investments in science and adaptation will prepare Canada to meet that challenge.

The science that underpins the Government of Canada's policy on climate change is sound. But more is required as we move forward. Canada's climate observation network will be enhanced to more fully understand changes that are occurring across Canada and in key sensitive areas, such as the North.

Climate change is a long-term challenge and investments in science and adaptation will prepare Canada to meet that challenge.

Regional- and local-scale modelling capacity will be developed to provide more accurate predictions of climate change.

Canada's highly respected global climate model, which drives regional predictions, will remain at the leading edge of science. Investments in science will ensure that sinks, a key element of addressing climate change, are properly understood and quantified. Canada also has a wealth of traditional knowledge to draw upon. We will expand our capacity to transform scientific knowledge into usable information for policy-makers, resource sector managers and the business community.

Finer-resolution climate change information is more suitable for the development of possible adaptation measures, as well as for the assessment of the viability of mitigation measures, such as the use of wind energy and hydroelectric generation potential. In general, actions on adaptation can often come with the benefit of supporting mitigation efforts. For example, trees planted to address the adaptation issue of soil erosion also act as a carbon sink and thereby contribute to mitigation.

Oceans play an important role in climate change, as they absorb carbon dioxide through physical, chemical and biological processes. As a result, they have taken up at least half of all man-made emissions of carbon dioxide. But there is evidence that the oceans may be starting to acidify. If this leads to a reduction of the oceans' carbon sink capacity, there will be more carbon dioxide staying in the atmosphere and hence more climate change. Further understanding of the role of oceans in climate change is essential.

The climate system is known to exhibit "tipping points," where change can be large, rapid and possibly irreversible. Scientific knowledge is at a preliminary stage when it comes to what changes in levels of GHGs might cause these "tipping points" to occur. For example, the Greenland ice sheet is expected to start to decline once local warming reaches a certain stage; once started, such a deglaciation may be irreversible, bringing with it eventual sea level rise of several metres. Scientific knowledge, while incomplete, is sufficient to indicate the possibility of these "tipping points" that we should strive to avoid. Further work is required to better identify these thresholds.

Canada is already experiencing the affects of global climate change and incurring costs to adapt to it. While efforts to move towards stabilization of atmospheric concentrations of GHGs through emission reductions are important and necessary, it is also recognized that the rate and magnitude of climate change will continue to demand social adaptation strategies to minimize the risks to quality of life.

More than half of Canada's GDP is substantially affected by climate and weather, including forestry, agriculture, fishing, hydro-electricity generation, transportation and tourism. Climate change is affecting entire sectors and regional economies. It also contributes to extreme weather events that are even affecting the safety and security of Canadians. The Maritimes have experienced "once-in-a-hundred-year" storms in each of the last three years. The 1998 ice storm did more than $1 billion in damage and left more than 1.5 million Canadians without power. The cost of weather-related disasters grew five-fold during the 1990s to $2.5 billion per year.

The federal science and adaptation agenda could consist of the following components:

- **Increase Knowledge and Understanding**: A solid knowledge base is needed to increase our understanding of current and future trends relating to climate change and its impacts on Canada. A research agenda would address issues such as the impact of climate change on Canada's freshwater and marine resources and the key role that oceans play as a major GHG sink. The agenda could also include work to further our understanding of the existing vulnerability of Canadians, including specific population groups and regions (eg., residents living in Canada's north, due to the impacts of climate change on key sectors such as agriculture, transport, forestry, fisheries and oceans, tourism, infrastructure and human health and well-being.
- **Enhancing Awareness and Engagement**: The federal government will pursue engagement with other orders of government, universities, industry and communities in understanding climate change and developing holistic responses to climate change threats.
- **Developing Appropriate Adaptation Tools**: The impacts of climate change are far-reaching and have major implications for governments in terms of the relevancy and adequacy of existing policies and regulations. Comprehensive risk assessments could play a critical part in ensuring that the governments have a solid understanding of climate change-related risks on operations and planning. It will be important for the governments to clearly identify liability issues.

Technology

As noted previously, Budget 2005 announced the Government's plan to develop, by the end of 2006, a Sustainable Energy Science and Technology Strategy. To initiate the development of this strategy, a panel of experts will be appointed — to provide advice on priorities, taking into consideration our national energy circumstances, existing technology strengths, and opportunities for partnerships with the provinces, territories, industry and academia, as well as internationally. The panel will be asked to report on its findings in a time frame that will allow the Government of Canada to complete the development of the strategy

More than half of Canada's GDP is substantially affected by climate and weather, including forestry, agriculture, fishing, hydro-electricity generation, transportation and tourism.

in 2006. Key objectives of the strategy will be to:

- lever both the ideas and financial resources of the private sector, universities, provinces and territories;
- develop a set of medium-term research goals around the efficient production and use of conventional and renewable energy; and
- develop a detailed action plan for reaching these goals.

Organizations such as Sustainable Development Technology Canada, a not-for-profit foundation, support the development and demonstration of clean technologies which provide solutions to issues of climate change, clean air, water quality and soil, and which deliver economic, environmental and health benefits to Canadians. Technology advancement that facilitates GHG reduction initiatives will provide opportunities to improve the health of Canadians by contributing to more sustainable and liveable communities which are supportive of healthy lifestyles. In moving forward on climate change, we must ensure that the health impacts of new technologies or other mitigation measures are assessed before they are widely deployed or commercialized.

There is a need to develop a federal framework or mechanism to ensure health impacts of new technologies or other mitigation measures are assessed before they are widely deployed or commercialized. As the Government of Canada moves forward with the design of specific initiatives it should be based on an analysis of the benefits and costs of new technologies or processes introduced to reduce GHG emissions. Full knowledge of the health co-benefits will also go a long way in helping to mobilize Canadians and stakeholders in working towards the reduction targets.

Canada will host the Montreal Conference on Climate from November 28 to December 9, 2005, at which the nations of the world will begin consideration of the longer term global climate change regime.

Post-Kyoto

In moving beyond the Kyoto time-frame, the recent mandate given by the Prime Minister to the National Round Table on the Environment and the Economy (NRTEE) is significant. Among other items, the Prime Minister asked the NRTEE to develop advice on a long-term strategic energy and climate change policy for Canada that:

- sets the course for the 21st Century economy to 2030–2050;
- positions Canada to compete in a carbon-constrained world, including business and sub-national government opportunities, and options for aligning our policies and incentives to advance Canada to a position of leadership in renewable energy, efficiency and conservation; and
- considers options for post-2012 greenhouse gas reduction targets, including the second commitment period and beyond to 2050–2080, in keeping with objectives aimed at stabilizing concentrations of greenhouse gases in the atmosphere and minimizing temperature increases. In considering options the NRTEE will assess, among others, approaches taken by the United Kingdom and Japan.

International Strategy

Canada will host the Montreal Conference on Climate from November 28 to December 9, 2005, at which the nations of the world will begin consideration of the longer term global climate change regime. It is because of the importance of this regime for the world and for Canada that the Government decided to host the Montreal Conference on Climate. It is our intention to use our role as host and president of this meeting to do everything possible to successfully launch the constructive global dialogue that will shape the international agreement after 2012.

More than 180 countries will attend the Montreal Conference on Climate. Each faces its own unique challenges in reducing GHG emissions and adapting to the changing climate while ensuring its economy grows and prospers to improve the quality of life for its people. In order to facilitate the world's search for the best path forward, Canada will spend the coming months reaching out to countries around the world and learning about their perspectives and concerns first-hand.

The Government will also draw heavily on the advice and expertise that resides here in Canada. We will consult closely with provincial and territorial governments and Aboriginal peoples. We will seek the views of industry stakeholders and non-governmental organizations. The actions and perspectives of municipal governments will be taken into consideration.

How the world responds to climate change will significantly influence Canada's long-term competitiveness and the health and safety of Canadians. The new international agreement must provide the framework to drive prosperous 21st century economies that are innovative and efficient as well as lead to deeper reductions in GHG emissions.

The agreement must meet six key objectives. It must:

- have broader participation with fair goals, including all industrialized and key emerging economies;
- generate outcomes that will result in real progress over the longer term;
- provide incentives to invest in developing and sharing transformative environmental technologies to reduce emissions at home and abroad;
- maximize the deployment of existing clean technologies;
- support a streamlined and efficient global carbon market; and,
- address adaptation as well as mitigation.

Canada is well positioned to help build the optimal next-generation international agreement. We are a member of the G-8, La Francophonie, the Commonwealth, the North American Free Trade Agreement, the Organization of American States, the Arctic council and Asia Pacific Economic Cooperation. We have close ties with the United States, and we are respected in the developing world.

Environmental sustainability is also a priority in Canada's development cooperation. It will be systematically integrated into decision-making across all programming. Canada will assist countries to create, maintain and enhance environmental sustainability, particularly in relation to climate change, as well as the other key areas of land degradation, freshwater and sanitation, and urbanization.

Through the renewal of the Canada Climate Change Development Fund, Canada will continue to work very closely with developing countries to reduce the causes and adapt to the consequences of climate change. The Fund provides support to developing countries in four program areas: core capacity-building for Clean Development Mechanism participation, emission reduction, carbon sequestration, and adaptation. Our capacity-building efforts will help to increase foreign direct investments from private sources. We will also work with developing countries in determining how we could more effectively improve components of the Clean Development Mechanism.

Canada also supports a number of multilateral programs, including the Global Environment Facility (GEF), the main funding mechanism to help developing countries with their climate change-related activities, as well as ongoing programs of the United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), and regional development banks, including the World Bank's portfolio of Carbon Funds, to help leverage additional private sector investments.

Moving Forward on Climate Change

The Government of Canada is committed to reducing our GHG emissions in both the short-term and the longer term. This Plan sets out the framework and concrete actions for achieving these goals.

Meeting these objectives helps safeguard vulnerable ecosystems such as Canada's North, enhances our quality of life through health and other benefits and provides an opportunity to transform our economy. This Plan will enable Canadians to shift our country towards a clean energy future and increase the efficiency, sustainability and international competitiveness of the Canadian economy.

The Government is committed to providing resources and to working in partnership with Canada's provinces and territories, Aboriginal peoples, industry, environmental groups and others to implement the Plan.

How the world responds to climate change will significantly influence Canada's long-term competitiveness and the health and safety of Canadians.

Annex 1: **Summary of Potential Emission Reductions and Associated Federal Costs**

It is estimated that the approaches outlined in the Plan could reduce emissions by about 270 Mt annually in the 2008–2012 period. The associated federal investment is in the range of $10 billion, including $2 billion in funding for existing climate change programming. This investment would take place through the 2012 fiscal year, which encompasses eight budgets, including the 2005 budget.

There is an interdependency between the various mechanisms set out in Table 1, in particular the Climate Fund, Partnership Fund and Programs. For that reason, simply adding the high or low end of the Mt and $ ranges set out in Table 1 does not give an accurate representation of total emission reductions and costs.

Table 1

Element	Potential Cost to the Federal Government and Impact on Emissions
Climate Fund	Funding in the order of $4–5 billion could reduce emissions by 75–115 Mt annually in the 2008–2012 period. Budget 2005 provided a minimum $1 billion over five years.
Partnership Fund	Funding in the order of $2–3 billion could reduce emissions by about 55-85 Mt annually. Budget 2005 provided at least $250 million over five years, and indicated that funding could grow to $2–3 billion over the next decade.
Large Final Emitter System	The emission reduction target for the LFE system is set at 45 Mt off the revised baseline. Since LFEs can contribute up to 9 Mt to the GHG Technology Investment Fund, it is possible that 36 Mt would be generated in compliance against our Kyoto target.
Automobile Industry	The automobile industry has agreed to an emission reduction target of 5.3 Mt.
Renewable Energy	The initiatives for renewable energy found in Budget 2005 (WPPI, RPPI and tax incentives), combined with other initiatives such as supportive provincial actions, could yield emission reductions of about 15 Mt annually. Budget 2005 provided $297 million over five years and $1.8 billion over 15 years for WPPI and RPPI, and $295 million over five years in tax incentives. Extending the five year funding to 2012 could involve a total cost to Government of about $1 billion. Supplementary incentives through the offset system may be needed to deliver the 15 Mt.

Table 1 *(cont'd)*

Element	Potential Cost to the Federal Government and Impact on Emissions
One-Tonne Challenge	The One-Tonne Challenge set an emissions reduction goal for Canadians of 5 Mt. It is proposed that an additional $120 million be invested in the program to support that objective.
Greening Government	The emissions reduction goal for the federal government from its own operations is being set at 1 Mt, to be funded primarily through internal reallocation.
Programs	Extension of existing funding for climate change programs through 2012 could bring the cost to the federal government to about $2.8 billion. It is estimated that this level of funding could result in emission reductions of about 40 Mt annually in the 2008–2012 period. Budget 2005 notes that the $2 billion in program spending is subject to reallocation.
Business-as-Usual Sinks	The BAU agricultural sink is estimated at 10 Mt annually in the 2008–2012 period. The BAU forest sink is estimated to be in the range of 0–20 Mt.

Notes to Table 1:

1. The Partnership Fund figures include an estimated 20 Mt annually in total reductions from clean coal, carbon dioxide capture and storage and east-west transmission projects over the 2008–2012 period. The cost to the federal government is estimated at about $1.5 billion, or about 30 percent of the total cost for these energy large-scale projects.
2. In addition to the domestic reductions estimated to occur through the LFE system, automobile emission reductions, large scale energy projects, renewable energy, One-Tonne Challenge, greening government, programs and BAU sinks, it is estimated that further domestic emission reductions will be available through incremental agricultural and forest sinks, agricultural emission reductions, landfill gas and other reductions. These reductions could be delivered through the Partnership Fund and/or the Climate Fund; the cost to the federal government is estimated at $10 per tonne of carbon dioxide equivalent.
3. Where emission reductions other than those relating to large scale energy projects are being delivered through the Partnership Fund, the costing in this table assumes for analytical purposes that for every dollar invested by the federal government, provincial governments invest 67 cents.
4. Table 1 does not count any emission reductions from the *New Deal for Cities and Communities*, from existing and future investments in technology development or from any new tax measures that might result from the evaluation referred to in Budget 2005.
5. The costing of Table 1 assumes that international emission reductions are available at a cost of $10 per tonne of carbon dioxide equivalent; this is above the price at which many transactions are currently occurring, and is within the range of expert estimates for the 2008–2012 period.
6. Table 1 indicates the funding provided in Budget 2005 for the various elements of the Plan. The Budget Plan (p. 175) notes: "More action will be required in the future. The Government will introduce additional measures as resources permit and as we learn from our investments and international experience."

Annex 2: **Government Commitments to the Large Final Emitters**

Table 2

Government Commitments	2005 Plan
2002 Climate Change Plan for Canada	
55 Mt reduction target for 2008–2012	Fixed process emissions receive a 0 percent reduction target. Other emissions receive a 15 percent target subject to no sector target being greater than 12 percent.
Access to emissions trading, domestic offsets, and international permits	LFE companies can trade emission reductions that go beyond their regulated standard. They also have access to Clean Development Mechanism (CDM) and Joint Implementation (JI) credits, "greened" international permits (assigned amount units or AAUs) and domestic offsets.
Emissions-intensity approach	Emissions-intensity approach
Special provision for early action, competitiveness, capital stock turnover through covenants	Dealt with through target approach described above and emissions intensity targets.
Letter from Minister of Natural Resources Dhaliwal to Canadian Association of Petroleum Producers (CAPP), Dec. 2002	
$15 per tonne price cap	$15 per tonne price cap
Emission intensity targets for oil and gas sector will not be more than 15 percent below projected BAU emission intensity levels for 2010	Delivered through target approach described above
Letter from Prime Minister Chrétien to Canadian Association of Petroleum Producers (CAPP) July 2003	
Post-2012 emission reduction targets will not make Canadian oil and gas production uncompetitive, and industry will be consulted on the technical feasibility and economic impacts of targets for the period post-2012	Delivered through proposed approach to longer term target-setting.

Table 2 *(cont'd)*

Government Commitments	Proposed System
The government will seek the most efficient means of implementing climate change policies, drawing on existing reporting and regulatory processes where appropriate; it will promote harmonized policies with a single efficient, federal-provincial/territorial harmonized reporting, verification and policy enforcement system where feasible	Proposed approach is based on maximizing efficiencies, using existing reporting and regulatory processes, and using provincial equivalencies where possible. A harmonized reporting and verification system with provinces and territories has been set up and a Phase 1 implementation stage is underway.
Equitable treatment of all sectors will continue to guide policy post-2012	Delivered through proposed approach to longer term target-setting.
The "business-as-usual" reference for intensity targets will take into account future federal environmental regulations so as to avoid imposing a "GHG penalty" on mandated actions to improve environmental performance	Will be reflected in regulations.
Emissions targets for new projects will be based on targets for existing best-practice facilities using similar technologies and will be locked in for up to ten years from first production	Targets for new large facilities will be based on best available technology economically achievable (BATEA); targets will be set in regulation, thereby providing maximum possible certainty.
Emissions below targets will generate credits that can be banked or transferred. Offset options will include: offsets generated by reductions in other facilities of the operator; qualifying domestic and international offsets; exercising the $15/tonne price assurance through 2012	Delivered through trading mechanism, domestic offset system and GHG Technology Investment Fund.
Methods will be developed to integrate into the compliance options an incentive to increase qualifying R&D to reduce carbon intensity	Delivered through Technology Investment Fund.
Costs incurred to comply with emission targets and that represent a cost to earned income will be treated consistently with other comparable operating and capital expenses by the tax system	Delive ed through consistent tax treatment.

Annex 3:
Canada's Kyoto Commitment

Under the Kyoto Protocol, Canada has agreed to reduce its annual emissions over the period 2008–2012 to a level 6 percent below our actual emissions in 1990. Since our emissions in 1990 were about 596 Mt, this means that over the 2008–2012 period our emissions should not, on average, exceed 560 Mt. It is important to note that, in assessing whether Canada has met its target, account will be taken of the various flexibility mechanisms built into the Kyoto Protocol, including the provisions relating to emissions trading and to carbon sinks.

Canada's target is the most challenging GHG emission reduction target among Kyoto signatories. Among Kyoto signatories, the percentage difference between projected BAU emissions in 2010 — what emissions would be in the absence of action to reduce them — and the Kyoto target is greatest for Canada.

Our emissions in 2010 would be about 36 percent above 1990 levels, or about 45 percent above our Kyoto target, in the absence of any action to reduce them. This clearly demonstrates the magnitude of our challenge, and in fact our projection of BAU emissions for 2010 is currently being revised upwards. Canada has an energy intensive economy due to a combination of factors that make it unique among industrialized countries: a cold climate, large distance between population centres, and Canada's resource-based economy. As well, Canada's economy has been growing — between 1990 and 2003, our GDP grew by 43 percent. Canada's emissions in 2003 were about 24 percent above 1990 levels.

Despite the challenge, the Government ratified the Kyoto Protocol because Canada recognizes the significant threat posed by climate change, has a strong multilateral tradition and believes we must share in the international effort to solve this global problem. Moreover, Canada recognizes the domestic environmental and economic benefit that being a party to the Protocol will deliver. The Government is committed to respecting our Kyoto commitment "*in a way that produces long-term and enduring results while maintaining a strong and growing economy,*" as stated in the Speech from the Throne.

Annex 4:
Climate Change Science

The IPCC was established by United Nations agencies in 1988 to undertake periodic comprehensive assessments of the available scientific and socio-economic information on climate change and its impacts and on options for mitigating and adapting to the risks posed by climate change. To date, the IPCC has issued comprehensive assessments in 1990, 1996 and 2001. Preparation of these assessments is undertaken with the help of several thousand experts from around the world. Canadian experts have been substantively involved in each of the three assessments produced to date and are similarly making significant contributions to the preparation of the fourth assessment report, to be completed in 2007. The individual IPCC Working Group reports are based on an assessment of published, peer-reviewed technical literature available at the time of preparation of the reports.

Evolution in our understanding of the science of climate change can be viewed through the key scientific conclusions from the three IPCC assessments completed to date. In the First Assessment, completed in 1990, experts concluded that they were certain that emissions from human activities are substantially increasing the atmospheric concentrations of GHGs and that this will enhance the greenhouse effect and result in an additional warming of the Earth's surface. Climate models available at that time predicted under BAU scenarios a rate of increase of global mean temperature during the 21st century of 0.3 degrees Celsius per decade, with an uncertainty range of 0.2–0.5 degrees Celsius. The IPCC pointed out a number of uncertainties, including sources and sinks of GHGs and the role of clouds, oceans and polar ice sheets. The First Assessment was used as the basis for arriving at the Framework Convention on Climate Change.

The Second Assessment, completed in 1995, highlighted the considerable progress in understanding made since 1990. New findings included: GHGs have continued to increase; climate has changed over the past century; the balance of evidence suggests a discernible human influence on global climate; climate is expected to continue to change in the future; and there are still many uncertainties. The Second Assessment was endorsed at the second Conference of the Parties to the Kyoto Protocol in 1996 and used as a basis for international negotiations around the Protocol.

The Third Assessment, completed in 2001, addressed the question of human influence on today's climate and what the possible future climate could be. Key findings included: an increasing body of observations gives a collective picture of a warming world and other changes in the climate system; emissions of GHGs due to human activities continue to alter the atmosphere in ways that are expected to continue to alter the climate; confidence in the ability of climate models to project future climate has increased; there is new and stronger evidence that most of the warming over the last 50 years is attributable to human activities; atmospheric climate change will persist for many centuries; and further action is required to address remaining gaps in information and understanding.

The three IPCC assessments have provided a record of increasing knowledge of climate change over the past 15 years. This has included understanding of how the climate system functions, how climate is changing, what the causes are, what the human contribution is and what the impacts are. In addition, they show how our confidence in the tools, data and projections for the future has increased substantially. Taken together, they have provided an unprecedented global consensus on an environmental issue, and thus a sound base upon which to develop both national and international approaches to address the issue.

Annex 5: **A History of Our Climate Change Actions**

We have made considerable investments in climate science, which will help us better understand the nature of climate change, its impacts and enhance our capacity to adapt to those impacts.

Investments

Since 1998, the Government has made incremental investments in climate change through successive budgets. Prior to Budget 2005, $3.7 billion had been set aside for climate change. Of this amount, about $2 billion remains to be used in coming fiscal years. This means that about $1.7 billion has been spent on climate change through the seven budgets since Kyoto was agreed upon in December 1997.

Of this $1.7 billion, about $900 million has been invested in reducing emissions during the Kyoto time period of 2008–2012. Of the remainder, some has been invested in the development of technologies that may bear some fruit in the Kyoto period but are likely to make their greatest contribution to reducing emissions after 2012. These investments will be critical in placing Canada on the lower-emissions trajectory that will be needed as the international community comes to terms with the very significant cuts in GHG emissions that are needed over time in order to address climate change.

We have made considerable investments in climate science, which will help us better understand the nature of climate change and its impacts and enhance our capacity to adapt to those impacts. Additionally, some funds have been invested in helping developing countries to reduce their emissions and maximizing opportunities for Canadian business to participate in the emerging international carbon marketplace by selling their technologies and expertise.

Measures Already in Place

The first tranche of actions to reduce emissions was contained in Action Plan 2000, which comprised a suite of measures that targeted key sectors accounting for 90 percent of Canada's GHG emissions:

- Measures implemented in the transportation sector included the Urban Transportation Showcase Program, which demonstrated the potential of innovative, integrated and sustainable transportation practices in our cities; and negotiation of voluntary agreements with air, rail, truck and marine sectors to improve fuel efficiency of goods transport.
- Measures in the building sector included energy efficiency evaluations for homeowners and improved energy efficiency standards for equipment and appliances.
- Measures in the area of renewable energy and cleaner fossil fuels included a federal green power procurement program, and promotion of carbon dioxide capture and storage.
- For small and medium-sized enterprises, measures included support for energy audits.
- Measures promoted agricultural sinks through the Greencover component of the Agricultural Policy Framework. The Pilot Emission Removals, Reductions and Learnings program has improved our understanding of how market-based initiatives can play an important role in reducing emissions and promoting carbon sinks.

In all, 45 different measures were included in Action Plan 2000.

The next major initiative was Budget 2001, which provided funding for the WPPI and the Green Municipal Funds. The WPPI represented a milestone in Canada's support for and implementation of emerging

renewable energy sources, while the Green Municipal Funds helped fund innovative emission reduction projects by our municipalities.

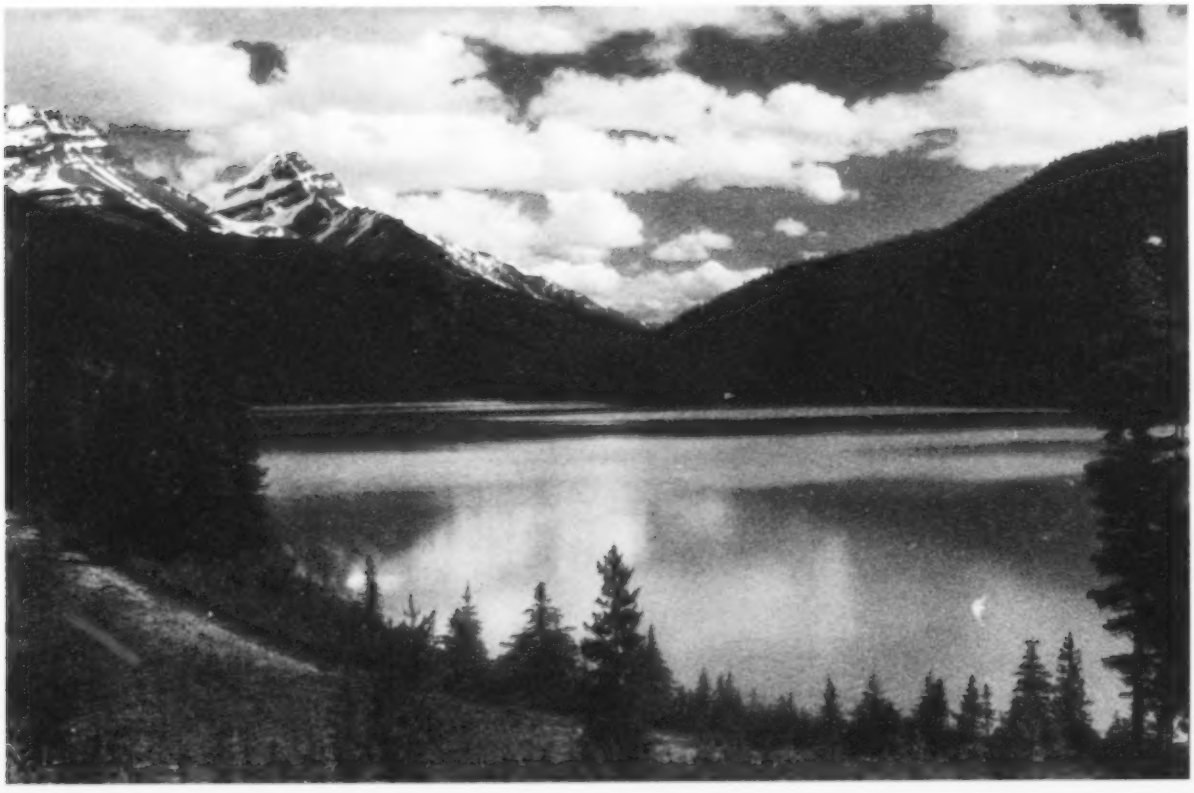
The *2002 Climate Change Plan for Canada* outlined a broad strategy to address climate change. Many parts of the 2002 Plan were funded in Budget 2003 and have built a solid foundation for further action. For example, to improve the efficiency of Canada's residential buildings, the EnerGuide for Houses Retrofit Incentive was launched in October 2003. This resulted in more than 100,000 EnerGuide home energy evaluations and approximately 15,000 grants awarded to homeowners who have made retrofits.

Early Signs of Progress

Canadian industry is now saving some $3 billion a year, thanks to advanced energy management practices. Emissions from houses, buildings and manufacturing have been essentially flat since 1990, despite robust economic and population growth.

Overall energy efficiency has improved by 13 percent since 1990. This has resulted in energy costs in 2004 that were $12 billion lower than they would have been if these energy efficiency improvements had not taken place. A recent study by the International Energy Agency (IEA) ranked Canada in the top third among IEA member countries in improving energy efficiency, ahead of the United States, the United Kingdom and Japan.

To succeed in our efforts to respect our Kyoto commitment, we need to work in partnership and mobilize our resources in this national effort, recognizing the important actions that have already been taken and the extensive consultations that have taken place with provinces, territories, Aboriginal peoples and stakeholders over the last decade.



Annex 6:
Engaging Canadians

Provinces, territories, Aboriginal peoples and stakeholders will be engaged on key elements of the Plan in order to implement it in a timely fashion; we intend to make major on-the-ground implementation steps in all areas of the Plan before the end of 2005. Public engagement mechanisms will also be developed in the monitoring and reporting of progress.

- **LFE GHG Protocol**
  - Sets out how the LFE system could be implemented under CEPA 1999 — for consultations with provinces, territories, industry, Aboriginal peoples and stakeholders.

- **Climate Fund mandate**
  - Sets out proposed mandate for the Climate Fund — certain aspects for consultations with provinces, territories, industry, Aboriginal peoples and stakeholders.

- **The offset system rules**
  - Sets out the rules for the offset system, including criteria for qualifying offset credits — for consultations with provinces, territories, industry, Aboriginal peoples and stakeholders.

- **Partnerships with provinces and territories**
  - Sets out proposed mandate and implementation of the Partnership Fund, including links to MoU process — for consultations with provinces and territories.

- **The development of LFE regulation**
  - Launch collaborative process with provinces, territories, industry, environmental groups, Aboriginal peoples and other stakeholders on development of the LFE regulation.

Photographic Credits

Cover

Photo 1: © Jim Moyes, 2002
Photo 2: © Environment Canada 2005, photo by Graphics Plus+
Photo 3: © COREL Corporation, 1994
Photo 4: © COREL Corporation, 1994
Photo 5: © Environment Canada 2002, photo by Photolux Commercial Studio

Interior

Page ii : © COREL Corporation, 1994
Page iv: © Environment Canada 2002, photo by Photolux Commercial Studio
Page 2: © COREL Corporation, 1994
Page 6: © Environment Canada, photo by ETAD Burlington
Page 8: © COREL Corporation, 1994
Page 11: © COREL Corporation, 1994
Page 12: © COREL Corporation, 1994
Page 15: © Jim Moyes, 2002
Page 16: © COREL Corporation, 1994
Page 18: © Environment Canada 2002, photo by Photolux Commercial Studio
Page 19: © Jim Moyes, 2004
Page 20: © COREL Corporation, 1994
Page 21: © Jim Moyes, 2002
Page 23: © Environment Canada 2002, photo by Photolux Commercial Studio
Page 25: © Jim Moyes, 2004
Page 26: © COREL Corporation, 1994
Page 27: © Jim Moyes, 2004
Page 29: © Jim Moyes, 2002
Page 30: © COREL Corporation, 1994
Page 31: © Photo by Société de transport de Montréal
Page 32: © Jim Moyes, 2004
Page 33: © COREL Corporation, 1994
Page 34: © Jim Moyes, 2004
Page 36: © COREL Corporation, 1994
Page 42: © COREL Corporation, 1994
Page 45: © COREL Corporation, 1994
Page 46: © COREL Corporation, 1994

NOTES

The printing processes used in producing this document conform to environmental performance standards established by the Government of Canada under Canada's *National Guidelines on Lithographic Printing Services*. These standards aim to ensure the environmental integrity of printing processes through reductions in toxic emissions to the environment, reductions in loading of wastewater, reductions in the quantity of materials sent to landfills, and the implementation of resource conservation procedures.

The paper used in the interior of this document conforms to Canada's *National Printing and Writing Paper Guideline* and/or *Uncoated Mechanical Printing Paper Guideline*. These guidelines set environmental performance standards for fibre-use efficiency, chemical oxygen demand, energy use, global warming potential, acidification potential, and solid waste.

The printing processes and the paper used in the interior of this document are fully certified under Canada's ecolabelling program — the **Environmental Choice**™ **Program** (ECP). The Program's official symbol of certification — the **EcoLogo**™ — features three stylized doves intertwined to form a maple leaf, representing consumers, industry and government working together to improve Canada's environment.

For more information about the **Environmental Choice**™ **Program**, please visit the ECP website at **www.environmentalchoice.com** or telephone (613) 247-1900.

The Government of Canada is proud to support environmental and quality performance standards, environmentally responsible products and printing processes, throughout its development and distribution of Project Green information products.

www.climatechange.gc.ca

To access other government publications:

1 800 O-Canada (1 800 622-6232)
TTY: 1 800 465-7735

canada.gc.ca

Service Canada Access Centres

© Her Majesty the Queen in Right of Canada, 2005

Moving Forward on Climate Change

A Plan for Honouring our Kyoto Commitment

www.climatechange.gc.ca 2005

Government of Canada Gouvernement du Canada

Canada

105-04242/

A comprehensive environmental vision

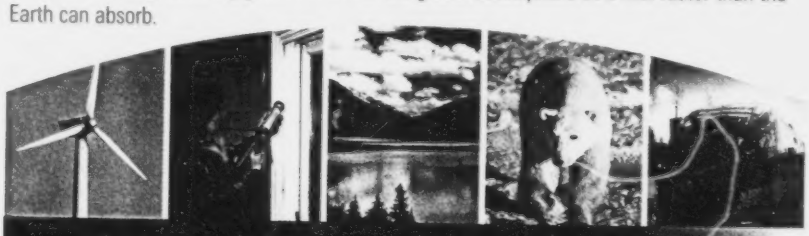
Project Green *is a set of policies and programs aimed at supporting a* ***sustainable environment*** *and a more* ***competitive economy****. Along with climate change, it will address a range of environmental issues, including biodiversity, water, contaminated sites and clean air. Project Green's groundwork was established by the October 2004 Speech from the Throne and Budget 2005.* ***Moving Forward on Climate Change: A Plan for Honouring our Kyoto Commitment****, is Project Green's first instalment and the subject of this brochure.*

The problem: our changing climate

Our planet's **temperature is rising** and this is **cause for deep concern**.

Over 2000 **leading scientists** contributed to the United Nations' Intergovernmental Panel on Climate Change. Their prediction: by 2100, Earth's average temperature will climb between 1.5 and 6 degrees Celsius, rising twice as fast in the Arctic. At first glance, this seems like a small increase, but it has **immense consequences**. Altering climate patterns will cause more frequent and severe **extreme weather** events, imperiling the northern Aboriginal way of life and **threatening the health and safety of Canadians and people around the globe**. Such incidents can also inflict huge **economic costs**, especially to sectors dependent on a stable natural environment like farming, fishing and forestry. Recent events including the Prairie drought, BC's forest fires, Hurricane Juan and the 1998 ice storm have shown Canadians firsthand the **crippling effects** of extreme weather.

The Panel of scientists also concluded: "**most of the warming observed over the last 50 years is attributable to human activities**" – in particular burning fossil fuels. This releases **greenhouse gases** (carbon dioxide, methane, nitrous oxide, ozone and vapour) along with **smog-causing pollutants** into the global atmosphere at a rate faster than the Earth can absorb.



Project Green is a set of policies and programs aimed at supporting a sustainable environment and a more competitive economy.

The solution: linking environment and economy

While Canada is already seeing some of the impacts of climate change on its own territory, this is a global problem and it requires **global action**. That is why Canada is a strong supporter of the **Kyoto Protocol**, which Canada and 140 other countries have ratified in order to reduce global greenhouse gas emissions. Canada's commitment: to **reduce** its greenhouse gas emissions to 6 percent below 1990 levels.

Climate change poses a challenge for Canada and the world, **but Canadians are rising to that challenge**. All of us — industry, governments, communities and individuals — **must** do our fair share.

With this challenge comes **opportunity**: to enhance our **health** through cleaner air and to strengthen our **competitiveness** by transforming our economy to make it more efficient and more sustainable. Doing so means drawing on the **ingenuity and innovation** of Canadians.

Moving Forward on Climate Change: A Plan for Honouring our Kyoto Commitment is the Government of Canada's **comprehensive plan** to enable us to fight climate change. It provides the **tools and incentives** to secure a healthy environment and a strong, growing economy — at the same time.

This Plan is a balanced approach with fair reduction targets to ensure a cleaner environment and economic growth.

Moving Forward with a renewed approach

This Plan makes sense for Canadians. It builds on **positive first steps** resulting from previous efforts in Action Plan 2000, and the *2002 Climate Change Plan for Canada*. The Government launched initiatives like the One-Tonne Challenge and EnerGuide retrofit programs to encourage **energy efficiency** actions by Canadian homeowners and commercial building operators to **reduce energy consumption**. Canada has also made major investments supporting Canadian **innovation** in cleaner fossil fuels, **ethanol** and hydrogen **fuel cells**.

The *2002 Climate Change Plan for Canada* stated that **our approach would evolve over time, as we learn from our efforts**, realize new possibilities and develop and put

Working together, Canadians and their governn

into use new technologies. Now we are building on Canada's first steps with a new and significantly different approach – one **linking economic prosperity with environmental progress**.

Budget 2005 laid a solid foundation for the new approach, introducing new market mechanisms, tax measures and **incentives** for private sector **innovation** and consumer **action**. Upon this foundation, *Moving Forward on Climate Change* will:

- promote investments in science and technology so Canada can become a **"first mover"** in developing and using **renewable energy** and other **green technologies**;
- safeguarding Canadians' health and quality of life through **cleaner air and greener communities**;
- build **lasting partnerships** with provinces, territories and municipalities;
- collaborate with industry and set **effective, fair reduction targets**; and
- ensure **continuous improvement and value for money** by reviewing programs annually, verifying our investments' results and shifting existing funds to strengthen what works.

Tapping the market's potential

The new **Climate Fund rewards creativity and innovation** by funding projects that reduce greenhouse gas and smog-causing emissions. It will purchase the value of large scale emission reductions from businesses, governments, organizations and citizens — examples include farmers who adopt low-till practices and property developers who include renewable energy elements in building new subdivisions.

The Fund also benefits Canada by supporting projects internationally. It will help showcase Canadian green technology at work around the world, and support our international development assistance objectives. **Emissions know no borders** whether they be greenhouse gases, smog-causing pollutants or hazardous substances like mercury. **Exporting our green technologies** and supporting efforts to reduce emissions in other countries will **benefit Canada's economy, the global environment and the health of Canadians** and people around the world.

In addition, **tax and production incentives** worth over $2 billion are directed to increasing Canadian development and use of renewable power technologies over the next 15 years, including **wind, solar, hydrogen and ethanol**.

nents can create the dynamic economy and healthy environ

Harnessing Canadians' commitment

Canadians' efforts are a key factor in fighting climate change and honouring our Kyoto commitment. New incentives and information will **help consumers make greener choices**, specifically through:

- raising awareness through the **One-Tonne Challenge**, of simple, energy efficient actions to save the environment and save money for consumers;
- strengthening the successful **EnerGuide** home retrofit program; and
- consulting Canadians to gauge the effectiveness of **possible new consumer incentives**, including those on ultra-fuel-efficient vehicles.

Industry – a balanced approach

Industry is the main source of both Canada's competitiveness and its emissions. This Plan is **a balanced approach** with **fair reduction targets** to ensure **a cleaner environment and economic growth**.

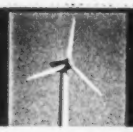
Large industrial emitters – The almost 700 companies that produce about half of Canada's emissions – including companies in the oil and gas, mining and manufacturing and thermal electricity sectors – will have challenging emissions reduction targets. They will also have the flexibility to meet their targets in a number of ways, including:

- **making energy efficiency upgrades** to their operations and technologies;
- investing in projects that **reduce emissions** in Canada and in developing countries and other emerging markets in order to showcase Canadian technology or **strengthen Canada's trade or development ties**;
- participating in an emissions trading market that allows companies to buy credits from large industrial emitters who have exceeded their set targets;
- contributing to the **new Greenhouse Gas Technology Investment Fund** that will develop and commercialize Canadian technologies to enable **substantial emission reductions** over the long term.

The Government of Canada will consult with Canadians on proposed rules to govern these activities and **ensure compliance**. The *Canadian Environmental Protection Act, 1999* is the Government's preferred regulatory tool.

The Automotive industry - Automakers have signed an agreement with the Government of Canada to reduce greenhouse gas emissions from passenger vehicles sold in Canada,

ment we want for current and future generations.



by introducing new technologies that make the vehicles produced, more environmentally friendly and safer. Examples include:

- **fuel saving** technologies;
- advanced diesel **technology**; and
- **hybrid** powertrains and cylinder deactivation technology.

The agreement sets out specific targets for industry, and the Government will monitor progress and use its regulatory tools if necessary to ensure the agreement's objectives are reached.

Building enduring partnerships

Recognizing that provinces, territories and municipalities play **a crucial role** in meeting Canada's challenge, the Government will:

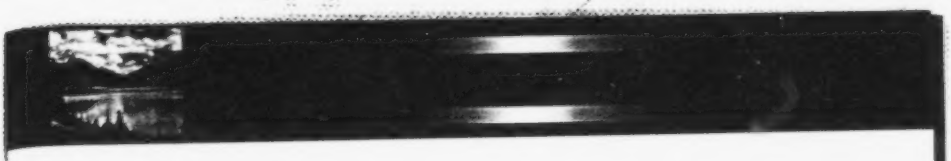
- reach new agreements and improve existing ones with each province and territory, determining **strategic investments** for emissions reduction and economic growth;
- use a new **Partnership Fund** to finance major technology and infrastructure investments, including clean coal, a **carbon dioxide capture and storage** pipeline and extending the reach of clean, **hydroelectric power**; and
- invest in **green municipal infrastructure**, including better public transit.

Leading by example

As a major employer with immense purchasing power, the Government of Canada will get its own house in order, and act as a catalyst for change by committing to:

- **cut emissions** from its facilities and activities by one third;
- draw 20 percent of its **electricity from renewable sources** by 2010;
- ensure new office buildings meet the **highest environmental standards**; and
- replace its vehicles more quickly, and with **fuel-efficient alternatives** including hybrids.

In November 2005, the Montreal Conference on Climate will bring the world to Canada to begin discussions among nations on how to tackle climate change beyond 2012.



Striving for continuous improvement and progress

Although the Kyoto Protocol covers a period up to 2012, this won't mark the end of Canada's climate change **commitment**. In November 2005, the **Montreal Conference on Climate** will bring the world to Canada to begin discussions among nations on how to tackle climate change **beyond 2012**.

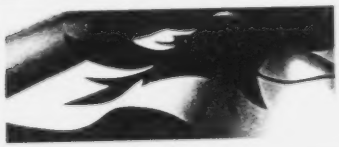
Our response to climate change will significantly influence **Canada's long-term competitiveness, Canadians' health and safety** and that of generations to come. The Government of Canada will introduce additional measures as resources permit and as we learn from our investments and experience.

Simply put, climate change is a challenge for Canada and the world. Meeting the challenge provides opportunities to **promote Canada's environmental know-how and technology**, by making our industrial sectors more **competitive and clean**, and making our society more **energy and resource efficient**.

Our success will result in **cleaner** air, **greener** communities, **healthier** Canadians and a **more competitive** Canada.

For more information
www.climatechange.gc.ca

To access other Government Publications, or for a copy of
Moving Forward on Climate Change: A Plan for Honouring our Kyoto Commitment,
contact:



1 800 O-Canada (1 800 622-6232)
TTY: 1 800 465-7735
canada.gc.ca
Service Canada Access Centres

© Her Majesty the Queen in Right of Canada (Environment Canada) 2005